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The publication of Vol. IX, Nos. 2-4, containing the
third instalment of G. and A. Horsfield's article on Petra
has been delayed owing to present circumstances. It is
hoped to issue these numbers as soon as possible.

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CONTENTS

EXCAVATIONS AGAINST THE NORTH WALL OF JERUSALEM, 1937-8. BY R. W. HAMILTON	<i>page</i>	1
A LATE BRONZE AGE TOMB AT TELL JERISHE. BY J. ORY	”	55

EXCAVATIONS AGAINST THE NORTH WALL OF JERUSALEM, 1937-8

THE excavations dealt with in this report were occasioned by a proposal to clean up the area outside the North Wall of Jerusalem by removing rubbish and readjusting some of the levels. Before doing either it was thought necessary to make a series of test soundings in order to determine the age of the accumulations at various points, and to fix the approximate levels at the time of the last major reconstruction by Suleiman the Magnificent in the middle of the sixteenth century A.D. At the same time it was hoped that sections through the accumulated debris might contribute some fresh evidence on the earlier history of the present North Wall line.

A glance at the masonry of the wall at almost any point is enough to show that as it now stands the wall is a composite structure of which the later parts, where they do not belong to the reconstruction of the sixteenth century, may be attributed to one or other of a series of repairs by Mamluke, Ayyubid or earlier Islamic rulers, while other sections, generally confined to the base of the wall, point rather to the work of Roman or Byzantine builders. It is with certain of these earlier portions of the wall that this report is primarily concerned.

Fig. 1 is a general plan¹ showing the positions of a number of soundings made² at various points against the wall between the Syrian Orthodox Community's Convent on the west and a point some 130 m. beyond Bab ez Zahire, or Herod's Gate, on the east. The soundings are referred to in this report by letters of the alphabet corresponding to the capital letters marked on the plan.

Sounding A. Against the west face of the west tower at the Damascus Gate. The purpose of the excavation at A was primarily to examine the foundations of the drafted masonry visible in the lower parts of the two flanking towers at the Damascus Gate (Fig. 2). The western tower was chosen because there was less modern rubbish on that side to be removed. The corresponding face of the east tower still remains for future excavation, to provide a control on the evidence obtained from the opposite side.

The position of the sounding was dictated partly by the presence of a modern flood drain which passes close to the northern face of the tower, partly by a

¹ Based on the 1:2500 Survey of Palestine plan of the Old City of Jerusalem.

The plans, sections and architectural drawings throughout this report were measured and drawn by Mr. Jack Dickijian, temporary draughtsman in the Department of Antiquities. Figs. 3, 4, and 13 were traced and drawn from Mr. Dickijian's drawings by Mr. N. Avigad of the Hebrew University.

² Under the immediate supervision of Salim Eff. el Husseini, Inspector of Antiquities.

massive screen of masonry, probably medieval in date, which was found applied to the northern end of the west face. In consequence of these two obstacles the excavation was restricted to a shaft some 5.50 m. long against the west face of the tower, including its junction with the curtain wall. Starting

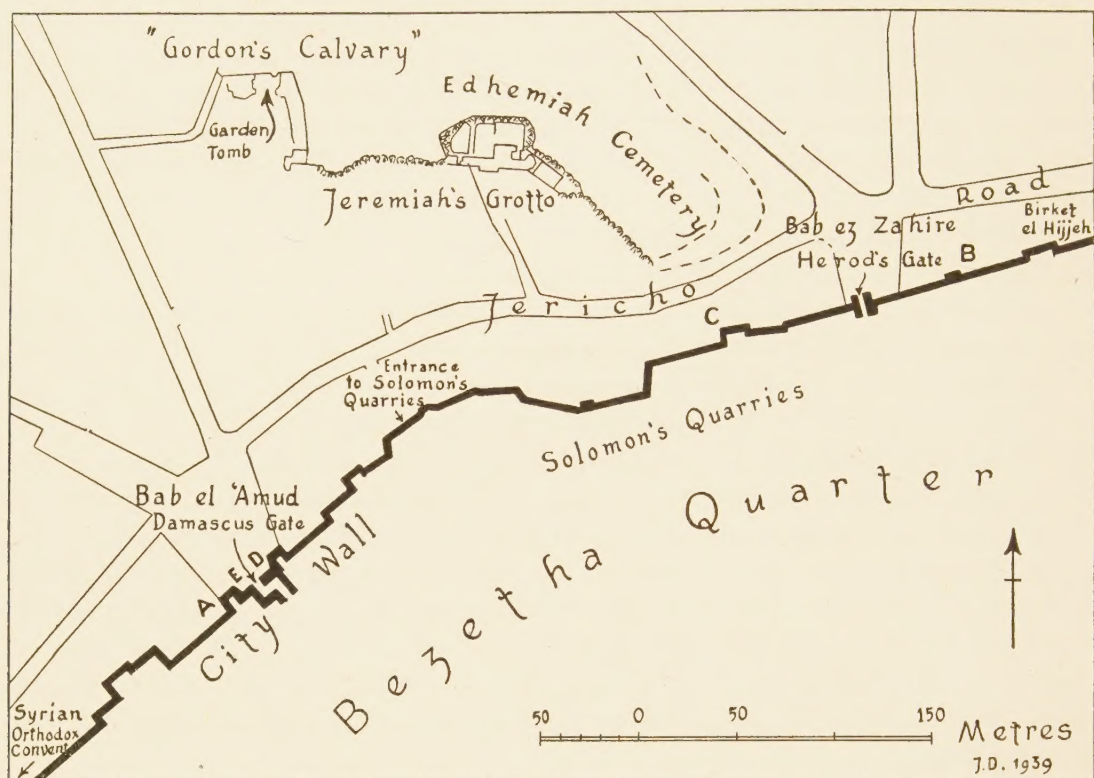


FIG. 1.

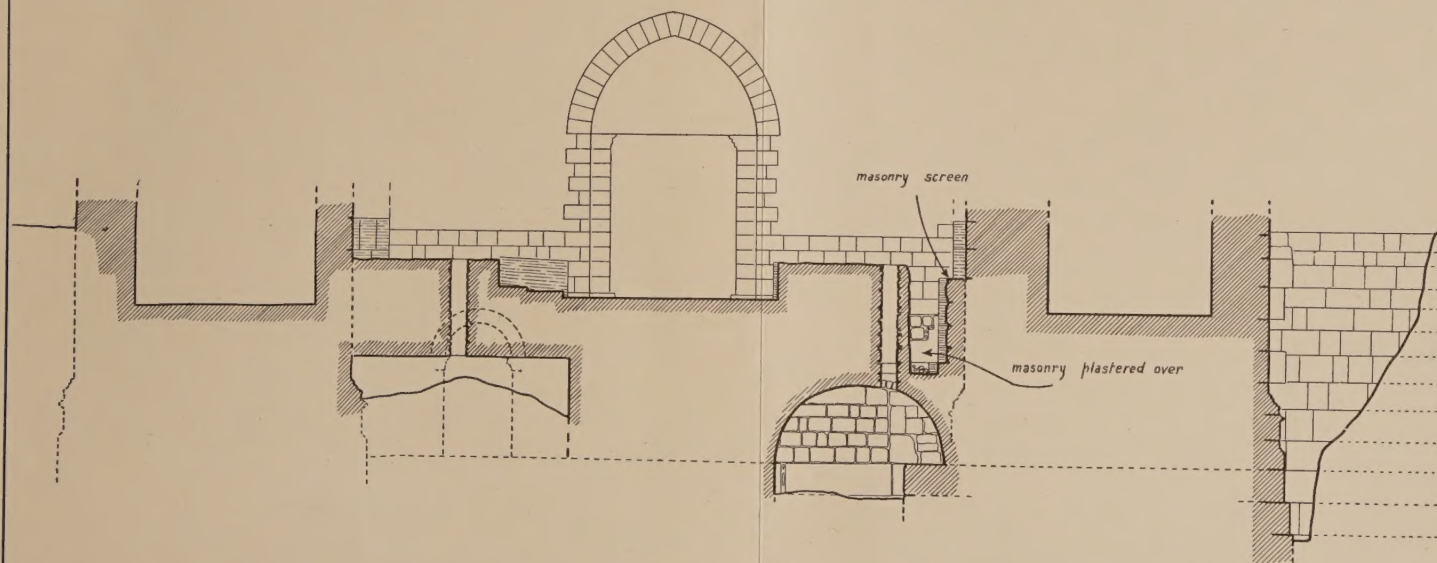
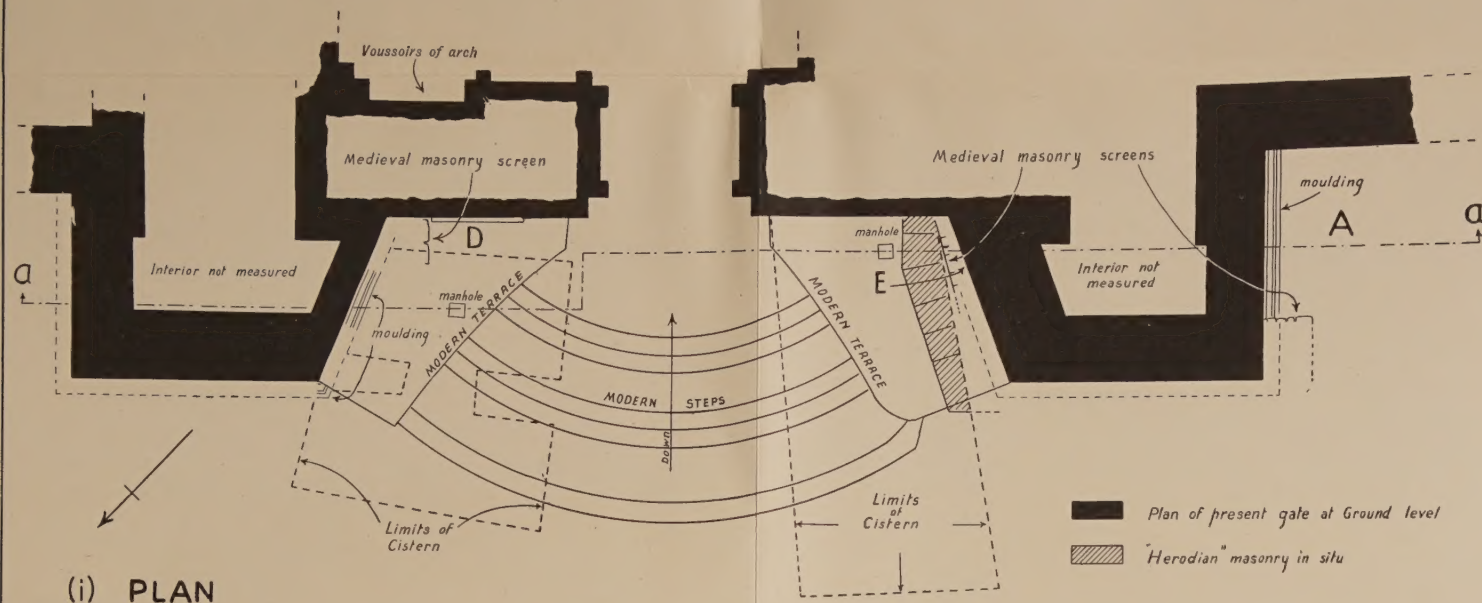
about 2 m. wide against the curtain, the area of the shaft was later substantially reduced by the discovery of two projecting mouldings which were encountered in the face of the tower at 5.50 and 7.50 m. respectively below the present ground surface. Within these limits the faces of both walls were cleared to a depth of rather more than 10 m. The bottom of the shaft was then probed with an iron rod, which seemed to touch rock some 110 cm. deeper.

Fig. 3, i and ii, are sections through the soil accumulated against the curtain wall and tower respectively.

For recording depths a datum level was fixed at the top of the first exposed course in the tower. All levels are expressed in metres below this datum. The courses in both walls are numbered serially from the top, number 1 in each case being the course immediately below the datum.

Figure 2.

SOUNDINGS AT DAMASCUS GATE



0 5 10 20 M.

EXCAVATIONS AGAINST THE N. WALL, JERUSALEM

At the start of the work the surface sloped unevenly down towards each wall face, and for the first 70 cm. was composed of builders' rubbish dumped

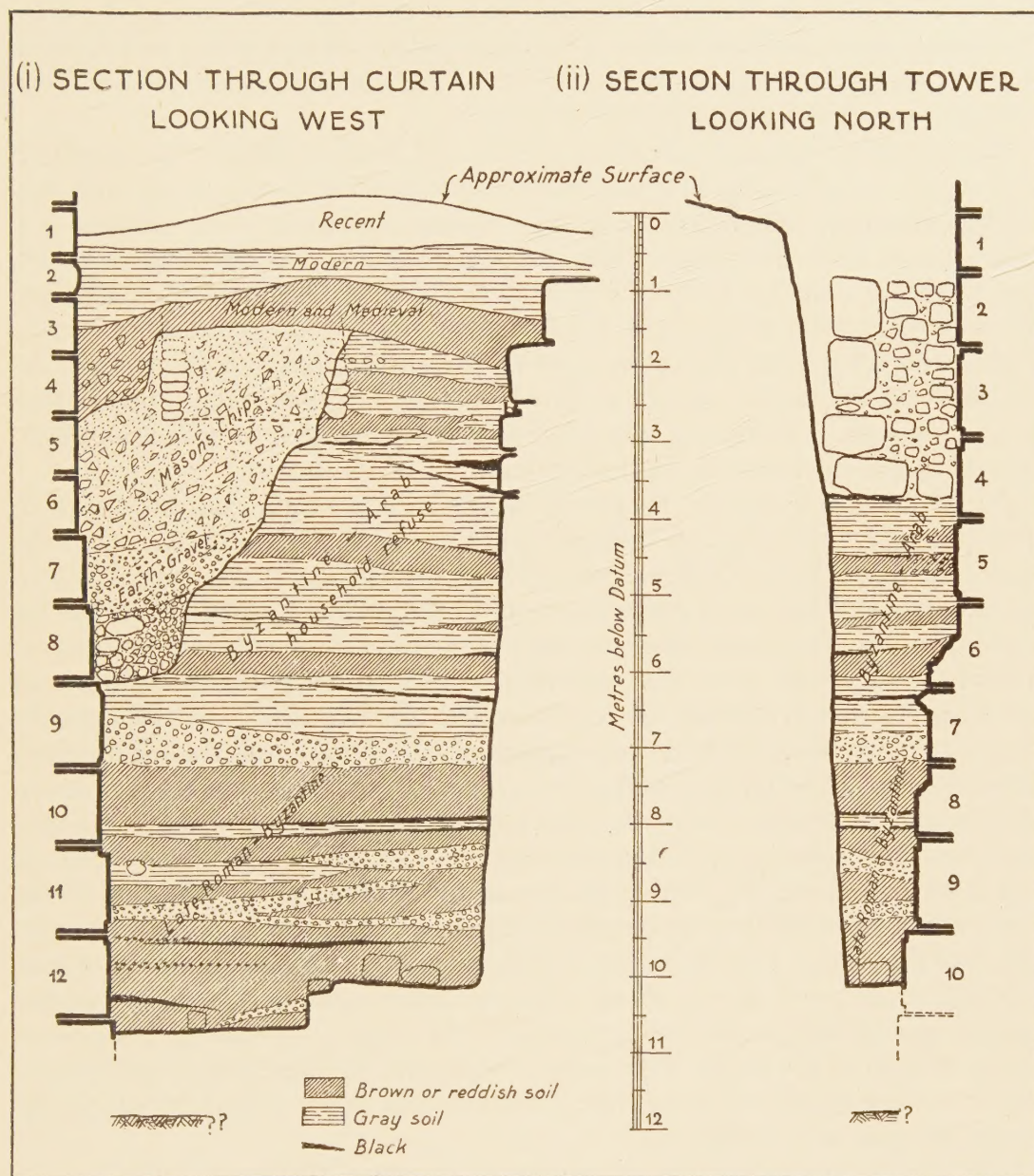


FIG. 3.

there in recent months. Beneath this was a layer of dark grey soil, also predominantly modern. At about 1.0 m. below the datum medieval glazed

pottery began to appear, mixed still with modern and Turkish fragments, in a layer of brownish earth rather less than 100 cm. thick. Below this the character of the soil changed and consisted, over the greater part of the area, of decomposed household refuse, greyish in colour, rather damp and loose in texture, and containing, with bits of bone, charcoal and streaks of ash, considerable quantities of late Byzantine pottery.

There were two areas of disturbance in this soil, both confined to the southern part of the trench. The first was related to a circular cesspit, lined with dry rubble masonry, which had been dug against the tower face between 1.0 and 3.50 m. from the corner. The upper part of this structure had caved in, and formed a shapeless heap of rubble in the southern half of our excavation. What remained below consisted of four to five rubble courses, standing 70 cm. high, on a level with the upper part of the third course in the tower. Its position relative to the curtain is shown in Fig. 3, i, projected on the plane of the section. The cesspit was filled with black earth and mixed rubbish, mainly of late medieval or Turkish date.

The earlier soil in which the cesspit had been dug was not all of one kind. The loose grey refuse mentioned above did not reach the southern end of the shaft but was replaced, in the corner between the cesspit and the curtain, by an almost unmixed deposit of white limestone chips, such as form the waste left by stone dressers. It became clear, as work proceeded, that while the cesspit was intrusive both on the grey refuse and on the chips, the chips themselves were an intrusive element in relation to the grey refuse. In fact they constituted the filling of an excavation that had been dug against the curtain wall at some previous stage after the accumulation of the grey refuse. Fig. 3, i, shows this excavation as it appears in section on a plane some 2.0 m. west of the tower face. Farther west, we learnt subsequently, it grew both wider and deeper. Conversely to the east it narrowed rapidly, so that the rim of the excavation met the face of the tower not much more than a metre from the corner. The bottom, against the curtain, was filled with a rather looser deposit of rubble, earth and building stones.

Outside and below the limits of these two interruptions the soil lay undisturbed against both walls, and so continued in roughly horizontal beds down to the bottom of the shaft. The sections represent, in slightly simplified form, the successive layers of household, builders' and other debris of which the accumulations were composed.

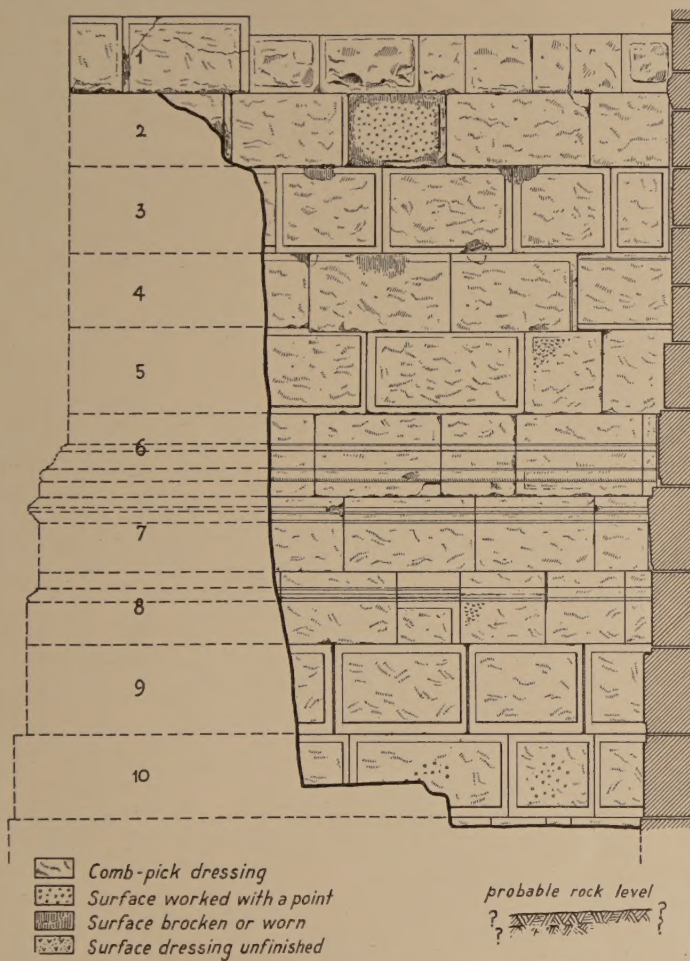
After the completion of this excavation an exceptionally heavy fall of rain in the winter of 1937-8 caused the side of the shaft to collapse, and led to a further section of the curtain wall being exposed. Both this and the face of the tower are shown in elevation on Fig. 4, i and ii.



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DAMASCUS GATE - WEST TOWER

(i) TOWER ELEVATION



(ii) CURTAIN ELEVATION

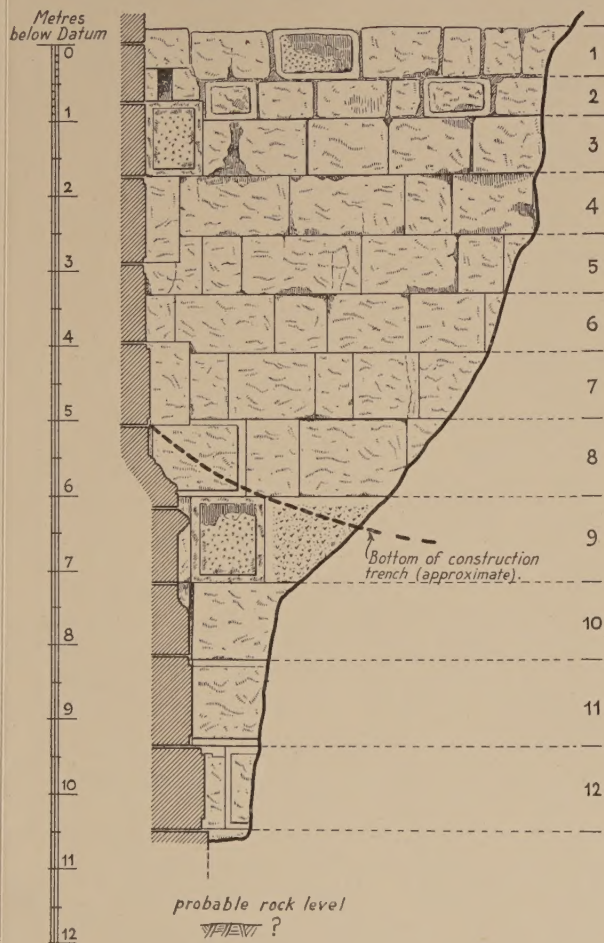


FIG. 4

EXCAVATIONS AGAINST THE N. WALL, JERUSALEM

Of the structure of the tower nine courses have been exposed in addition to course 1, which was partly visible at the start of work. The first four of these courses display the same panelled masonry, of monumental size, that has long attracted attention to the lower parts of the Damascus Gate Towers (Pls. I, 2 and II, 1). Courses 6, 7, and 8 carry mouldings which project some 70 cm. in front of the main wall face, and form part of a massive plinth on which the tower stands (Fig. 5). The cutting of the lower section of these mouldings is unfinished on the three end stones of course 8. Two more panelled courses were exposed below the mouldings. The lower of these, course 10, projects some 20 cm. in front of course 9. Course 11, of which only the top edge was seen, projects another 10 cm.

If there is not complete uniformity of style in the masonry of the tower (the marginal drafting, for example, is not consistently carried out in all stones) there are more obvious variations in the masonry of the curtain wall. Courses 1 and 2 are of the mixed masonry characteristic of most of the medieval work in the wall. Courses 3 to 8 are for the most part composed of stones of moderate size, dressed to an even surface with the comb-pick, and devoid of any marginal draft. Of courses 9 to 12 we have seen too little to be able to say more than that they are more massive than courses 3 to 8, and are composed of stones that either display a raised central panel or the remains of one that has been dressed down at second hand (Fig. 4, ii). The former, in courses 8 (first stone), 11, and 12, are essentially identical in style with the panelled ashlar of the tower.

In all this masonry there are two distinct styles of surface treatment which predominate over all others. The first is the style of the panelled masonry which composes most of the tower. In this the surface is dressed throughout with the comb-pick, the projection of the central panel varies from about

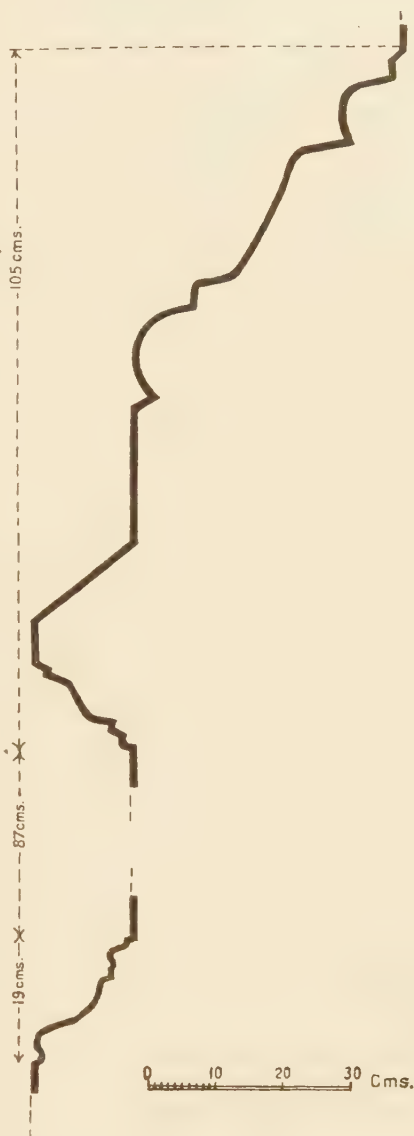


FIG. 5.

10 mm. in the courses above the mouldings to 15 mm. in those exposed below them. The plane of the raised centre is parallel with that of the wall face, and its surface dressing is identical with that of the margins.

In the second style, the smooth masonry of the curtain wall is also dressed throughout with the comb-pick, but the difference in scale and the absence of the marginal draft constitute a fundamental distinction between the two styles.

Over and above these there is a third important class of masonry represented by three individual stones (Fig. 4). One of these is the first stone in course 3 of the curtain; another, the first in course 9; and the third, the middle stone of those visible in the second course of the tower. The marks of the style which is common to these three stones are (1) a relatively deep marginal draft (up to 10 cm. in one case) dressed with the comb-pick; (2) a raised centre, with point-picked finish, the plane of which is not necessarily parallel with that of the wall face; and (3) a secondary border, about 5 cm. wide, round the edge of the raised centre, lightly finished with the comb-pick (cf. Pl. II, 2).¹

For brevity we refer to this as style *A*; to the panelled masonry with uniform comb-picked surface as style *B*, and to the plain masonry of the curtain as style *C*.

With regard to style *A*, the isolation, haphazard distribution, and rough handling of the three stones which display it are enough to show that they were prepared for, or have been taken from, some other building which must have existed earlier than any part of the tower or curtain here exposed.² This is confirmed by the presence, amongst the stones of style *B* in the tower, of at least one which shows, beneath a superficial dressing with the comb-pick, vestiges of the point-dressing and secondary margin of style *A*. The clearest example of this is the moulded stone at the south end of course 7 in the tower (Pl. II, 2). The receding and recessed planes of this stone are comb-dressed; but the front surface, partially hidden behind the corresponding course in the curtain wall, still shows in places the point dressing characteristic of style *A*, and, at the bottom edge, a trace of the marginal draft and secondary comb-picked border.

The presence of this undoubtedly reused stone in the masonry of the tower introduces an important point relating to style *B* as a whole. It is that many,

¹ Precisely the same features appear on the magnificent masonry visible at the bottom of the south-east corner of the Temple Area. Pl. II, 2, is a photograph of a typical block. The same style is to be seen in the enclosure wall surrounding the Tombs of the Patriarchs at Hebron.

² With the possible exception of courses 9 and 10 in the tower, which might be *A* masonry *in situ* redressed to conform to style *B* (see p. 26 below). In the stones of course 10 there seem in fact to be traces of an original point-dressed surface.

EXCAVATIONS AGAINST THE N. WALL, JERUSALEM

perhaps all, of the stones cut in that style are reused in their present positions. Some have been redressed and still show traces of an earlier treatment; others have marginal drafts that are clearly incongruous with their present positions in the tower. Amongst the stones that can be seen to have been redressed are some of those in the moulded courses. We should perhaps add the visible stones of course 10 which, as already remarked (p. 6, n. 2), show traces of point-dressing yet seem also to have been worked over with the comb-pick.

A second feature of the masonry in the tower is that the surface dressing of many of the blocks, including some of those in the moulded courses, is incomplete.

Fig. 4, i and ii, which should be studied in conjunction with Pls. I, II, will make both these points clearer than any verbal description could do.

Without going further one may conclude that the builders of the style *B* masonry, which includes at least the moulded courses in the tower and the panelled masonry that surmounts them, had at hand a supply of ready-cut stones, of monumental size, which they re-cut or dressed down to suit their purpose. Amongst these stones were at least some of the peculiar drafted type that we refer to as style *A*. The work was left partially incomplete.

Style *B* is not confined to the tower. The lowest two courses, numbers 11 and 12, of the curtain wall, with isolated stones higher up, are composed, as far as can be seen, of closely similar material.

The relation between the lower courses of the curtain wall and the smooth masonry above them in style *C*, is the next point to consider. A glance at the elevation on Fig. 4, ii, will show that the *C* masonry is laid in courses which average about 85 cm. in height while the average height of the tower courses is a few centimetres more than one metre. Courses 8, 9, 10, and 11, however, in the curtain are approximately, and course 12 exactly, the same height as the adjacent tower courses; so are the first stones in 7, 4, and 3. Of these last, the first stone of course 4 in the curtain passes in behind its neighbour in the tower, while those in courses 7 and 3 abut more or less neatly against the face of the corresponding tower courses.

On the other hand the rest of courses 3 to 7 in the curtain, which are consistently in style *C*, are adapted to the coursing of the larger masonry in a way that clearly shows that they are later in date. When the position and extent of this masonry is considered in conjunction with the intrusive excavation in the stratified debris against the curtain wall, it becomes a virtual certainty that the *C* masonry represents a patch inserted to fill a breach in an earlier construction of which courses 8 to 11 are the remains, while the white chips

and loose rubble and building stones thrown against courses 3 to 8 are the filling of the construction trench dug by the repairers.¹ The bottom of their trench is represented approximately by the broken line drawn, in Fig. 4, ii, across the face of courses 8 and 9 in the curtain. It was dug just deep enough to expose the surviving stump of the older wall. The stratification shows that the remains of that wall were covered at the time of the repair by some 4.50 m. of accumulated rubbish.

Our observations pointed at this stage to at least three distinct occasions of construction. The first and earliest related to a building of which we then knew nothing except that it was in masonry of style *A* and that its stones later became available for reuse by subsequent builders. The second construction was that of the tower and probably the bottom course of the adjacent curtain wall², which were built on a monumental scale out of old material redressed, and left partially unfinished. Later the curtain wall fell into ruin and was abandoned for a period represented by the accumulation over and around it of some metres of debris. The repair of this abandoned wall in masonry of style *C* represented the last occasion of construction with which we were immediately concerned.

To establish the chronology of this sequence it was necessary to turn again to the stratification of the debris.

The approximate ground level at the time of the *C* construction is probably given by the highest undisturbed layer of debris adjacent to the intrusive filling of rubble and chips (Fig. 3, i). The latest objects found in the undisturbed layers below that level (about 2.00 m. below datum) should give at least a *terminus post quem* for the repair of the wall. Any datable objects from the undisturbed filling of the construction trench could be presumed to be about contemporary with the repair, or not much later than it.

With regard to the *B* masonry of the tower, and the lower courses of the curtain, within the limits of our shaft there was no sign of any local disturbance in the stratified debris that could be associated with the construction of either. It could, therefore, be assumed that the whole of the soil excavated in the shaft accumulated after the construction of the tower and lower parts of the curtain. (Whether these were built simultaneously, and how long after the

¹ Pl. I, 1 shows a glimpse of this trench as exposed after the rains had caused the excavation to be enlarged. The ladder leans against the side of the construction trench, but rests on an earlier stratum of rubble abutting undisturbed on the lower part of course 9 (cf. Fig. 3, i). The stones lying against course 8 fill the bottom of the intrusive construction trench, about one metre west of the plane of Fig. 3, i.

² Whether courses 9, 10 and 11 in the curtain belonged to this or to a subsequent construction was still uncertain. Cf. p. 20.

EXCAVATIONS AGAINST THE N. WALL, JERUSALEM

building of either the accumulations formed, are both questions that must be considered later.)

The Pottery. From 9.40 (Fig. 3), the level of the shelf formed by course 10 in the tower, to the bottom of the shaft the soil was damp and sticky in consistency, reddish in colour and practically devoid of pottery. What sherds were found were confined to the half metre opposite the upper

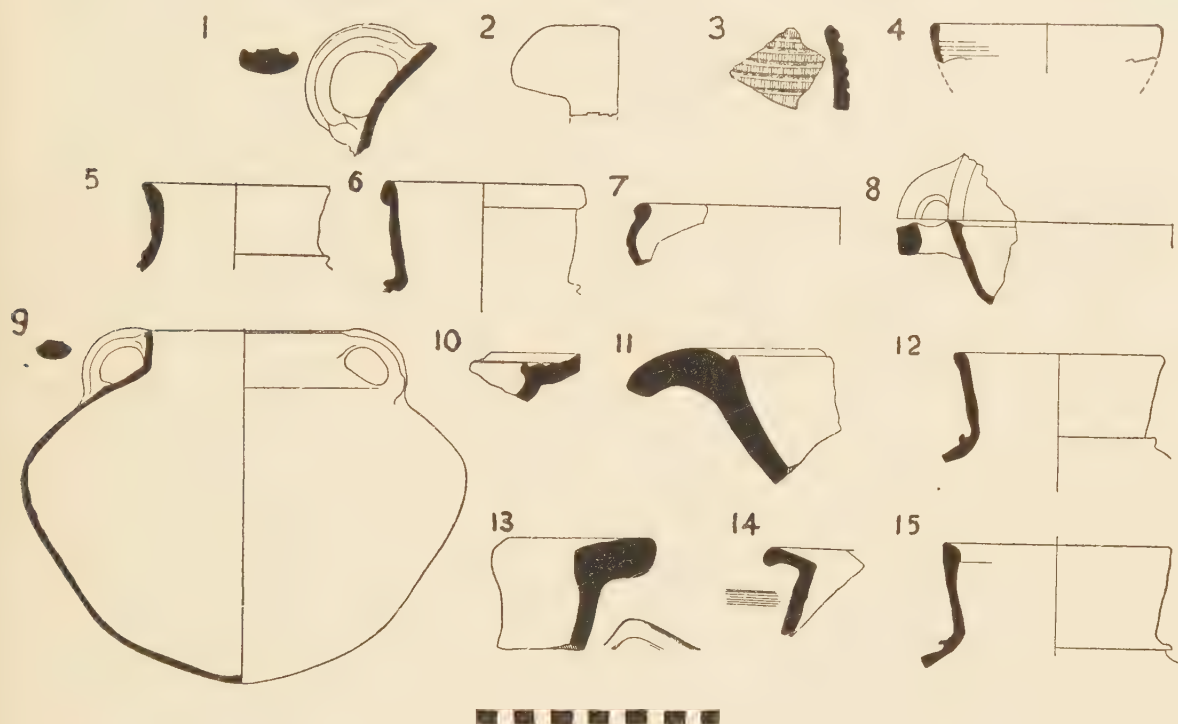


FIG. 6. Sounding A.

half of course 10. In addition to a few fragments of Iron Age wares they included the sherds drawn on Fig. 6, numbers 1 to 4.¹ Of these No. 1 is the handle of a jar in light red-brown ware, with pale cream surface, lightly but distinctly ribbed or 'rippled'. No. 2 is the fragment of a roof tile in warm reddish-buff clay, possibly from a legionary tile of the second century A.D. No. 3 is one of two similar gritty red-brown jar sherds, with close sharp ribbing on the outer surface; while No. 4 is the rim of a glass bowl, in yellowish-green glass, with two shallow grooves round the inner surface.

¹ In this and in subsequent figures of pottery the drawings are of individual sherds either illustrative of types or distinctive in themselves. In a few cases the whole shape of a pot has been drawn from a complete example derived from some other source.

Besides these fragments there was a small sherd from a late Roman 'A' ware bowl, dated by J. H. Iliffe not earlier than A.D. 250, and a cooking-pot fragment of the type of Fig. 14, 11 (p. 30).

9.40-9.00 m. Some 20 cm. above the shelf formed by course 10 of the tower there was a layer of stone chippings which extended over the whole area of the shaft. The pottery at this level included fragments of red-burnished bowls of about 900-600 B.C.; some Hellenistic sherds; jar handles of the form shown on Fig. 14, 6; a fragment of the contemporary 'collar' neck (*ibid.*, 2), and the fragment of a sigillata plate probably of the first century A.D. In addition to these there were a number of decidedly later fragments, such as the jar rims of Fig. 6, 5 and 6.¹ The form of No. 6 recurred several times in the next half-metre. Another late sherd is Fig. 6, 7, the rim of a bowl in light reddish-brown ware, with fine white grits and light brown surface wash. It has a shallow groove round the greatest diameter. Probably contemporary with this sherd is a fragment of a rouletted bowl with dark brown surface wash;² also a number of plain reddish-brown sherds with a brown matt slip or wash (cf. Fig. 22, 26). There were also a number of sharply ribbed jar sherds and a fragment of a ridged jar handle of the type of Fig. 21, 8.

9.00-8.35 m. The material from the next metre was more or less the same. Hellenistic and Iron Age fragments continued to turn up as high as about 8.0 m. below datum, but late Roman or Byzantine ribbed sherds were more common. Fig. 6, 8 is a cooking-pan rim with handle, from between 9.0 and 8.60 m. below datum. Number 9 is a complete cooking-pot found crushed in the corner of the tower and curtain between 8.60 and 8.35 m. It is in a brick-red ware with fine white grits. Besides other sherds of this kind there were more fragments of the type of No. 8, as well as of the square-shouldered cooking-pot of Fig. 14, No. 11. Fig. 6, 10 is one of two bowl rim fragments in buff ware. Another type, illustrated by Fig. 16, 16, was also represented by sherds of two distinct bowls. Besides these there was a fragment of a jar in dark grey ribbed ware with a horizontal ridge round the shoulder at the level of the bottom of the handle (cf. Fig. 21, 6).

From 8.35 to 7.50 m. came the remaining fragments shown on Fig. 6. Of these 11 is a basin rim in coarse buff ware, light red in the centre, from 8.35 to 8.15 m. Number 12 is one of three jar rim fragments from 8.15 to 7.70 m., in buff ware with a greenish-white surface. Number 15, a concurrent form, is light red with buff surface. Other sherds from the same level include a rouletted bowl fragment and others with simply a dark surface wash (cf. Fig.

¹ Fig. 6, 5. Light red ware with grey centre and pale buff surface. 6, buff, with white grits.

² Cf. a class of similar bowls from sounding B, p. 33 below.

EXCAVATIONS AGAINST THE N. WALL, JERUSALEM

22, 4, &c.); a lamp of the type of Fig. 23, 19; and a sherd from a jar of the kind shown on Fig. 21, 5. Numbers 13 and 14 are from 7.70 to 7.50 m., the former from a basin in buff ware with grey centre; the latter from a jar in buff, decorated with a horizontal combed band outside.

Apart from certain obviously earlier pieces, Iron Age and Hellenistic, the bulk of this pottery from the 2½ m. from 9.95 to 7.50 m. below datum belongs to a well-defined period. It will be seen later that the same types were found associated at certain levels in each of the two soundings at *B* and *C*. Elsewhere in Jerusalem, at Ophel and in the Citadel, the same grouping has been noted in stratified contexts. At Ophel in particular this pottery has been very fully and clearly described by the excavators.¹ It was there found in association with coins of the latter half of the third century A.D., and the excavators on these grounds refer to the associated level as the 'Lower Byzantine Level' and date it to the late third and early fourth century A.D. The only coin found by us at these levels was a coin of the second century A.D., at 8.10 m. below the datum.

Between 7.20 and 6.50 m. a thick layer of loose rubble extended over the whole area of the trench. Above this layer a number of new pottery types made their first appearance. Amongst the coarse pots three main types of water-jar were common. The first is in a gritty brick-red ware with close ribbing above and wider ribbing below the handles. It has a rather low neck and small loop handles (Fig. 7, Nos. 3 and 4). The second type is in a hard grey ware, ribbed, with grey or red surface and a crude decoration of white painted loops and spirals. This is closely related to the grey ware that appeared lower down, but the paint ornament is a new feature. A third class of jar is in a plain buff or white ware with a flattish ridge round the base of a straight cylindrical neck (Fig. 7, 1 and 2).

After the jars there are a number of deep bowls or basins in rather hard buff or grey wares, with out-turned rims and often some sort of incised or combed surface decoration (Fig. 7, 5 and 6).

Cooking-pots are now generally of the open saucepan type, of which there are two varieties, one with horizontal loop handles, the other, perhaps a frying-pan, with a hollow wish-bone shaped handle like the handle of a modern casserole (Fig. 7, 7). There is also a ribbed jug with rounded, out-curving lip (Fig. 7, 10 and 11).

Lamps are of the common 'candlestick' or pear-shaped variety, often with a debased Greek inscription round the filling hole (Fig. 10, 5 to 10).

Tile fragments and heavy jar sherds are found stamped with some simple device such as a cluster of circles or a wheel (Fig. 10, 1 and 2).

¹ Crowfoot and Fitzgerald, *P.E.F. Annual*, Vol. V, 1927, pp. 73 and ff.

The most characteristic and persistent type, which appeared for the first time at about 6.50 m. below datum is a fine metallic ware, grey (sometimes

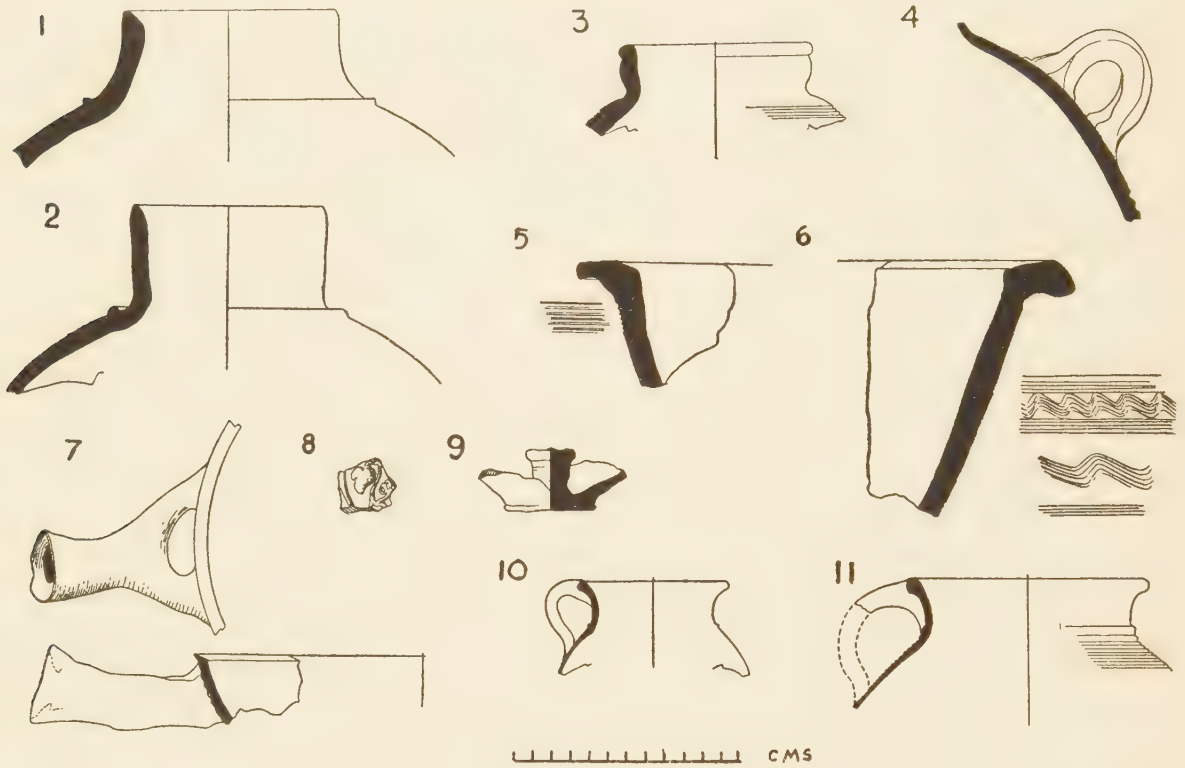


FIG. 7.

NO.	DESCRIPTION	DEPTH IN METRES BELOW DATUM
1	Jar neck. Coarse buff ware.	6.00-5.45
2	Jar neck. Buff, with fine white grits.	5.45-5.20
3	Jar neck. Red-brown, rough ware.	6.50-6.00
4	Jar handle. Cf. 3. Brick-red ware, grey centre. Close ribbing below neck, wider below handle.	5.45-5.20
5	Basin. Buff. Combed band under rim.	6.00-5.45
6	Deep basin. Buff, with wavy combing.	5.20-5.00
7	Saucepan fragment. Dark red-brown, rough ware.	5.20-5.00
8	Moulded sigillata sherd. Buff ware.	5.45-5.20
9	Pot lid. Pale buff ware, cream surface.	6.00-5.45
10	Jug fragment. Dark brown cooking-pot. Ware, fairly fine. The number of handles is uncertain.	4.50-4.00
11	Cooking-pot. Brick-red ware, darker surface. Handle or handles uncertain. Common type from 5.20 upwards.	5.00-4.50

red) in the centre and buff, red, or greyish-brown on the surface. The surface is generally worked smooth or lightly polished on the wheel with a flat tool, which gives it a banded appearance. Bowls in this ware are very com-

EXCAVATIONS AGAINST THE N. WALL, JERUSALEM

mon, and are often decorated with a shallow wavy groove, or two interlacing grooves, impressed with a blunt point. Apart from a variety of more or less

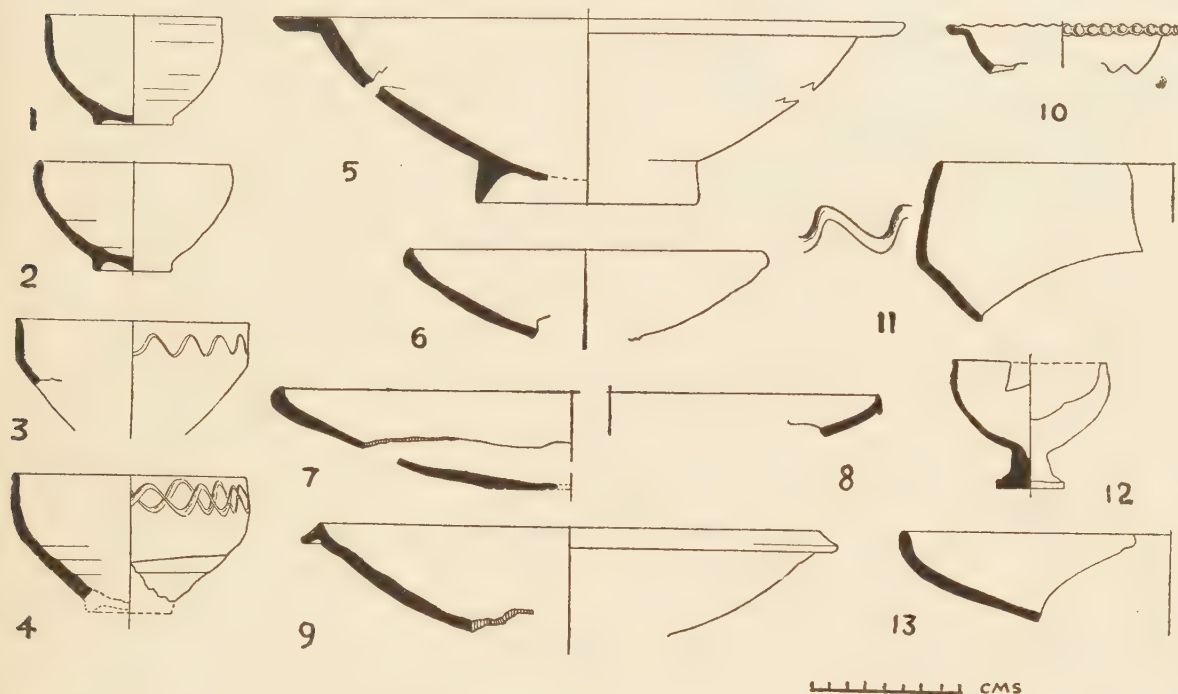


FIG. 8.

NO.	DESCRIPTION	DEPTH IN METRES
		BELOW DATUM
1	Bowl. Hard light red ware, greyish centre. Outer surface polished in bands.	6.50-6.00
2	Bowl. Reddish-buff, grey centre. Polished in bands.	4.50-4.00
3	Bowl. Fine greyish-buff ware, grey centre. Polished outside in bands. Groove made with blunt point.	4.00-3.80
4	As last, rather less fine ware.	4.00-3.80
5	Rim and base, not from the same bowl. The base a fine metallic red-brown, grey in the centre. Surface polished in bands. The rim greyish-buff and similarly polished.	5.00-4.50
6	Dish fragment. Fine band-polished ware.	4.00-3.80
7	Base and rim of dish, not necessarily the same. Greyish-buff, grey in centre. Band polished.	4.50-4.00
8	Bowl rim. Metallic grey ware, greyish-buff surface, polished.	6.00-5.45
9	Hard greyish-buff ware, grey in centre, band-polished. This is a common form. A similar bowl was found at 3.80 mended in antiquity with a metal rivet.	4.50-4.00
10	Bowl fragment. Hard buff ware. Polished outside. Rim indented.	6.00-5.45
11	Similar to 4.	2.60
12	Fine dark-grey ware. Warped, and probably over-fired.	3.80-3.40
13	Similar to 7.	

open bowls or dishes (Fig. 8), several kinds of rather deeper basins occur in similar or slightly rougher wares, unpolished and often ornamented with an

incised or combed band (Fig. 9). There are also jugs of different sizes, with a row of shallow incised nicks round the shoulder (Pl. XI, 18).

These wares, again, constitute a coherent group tying up with a group of types found associated in stratified contexts at Ophel.¹ The evidence there led

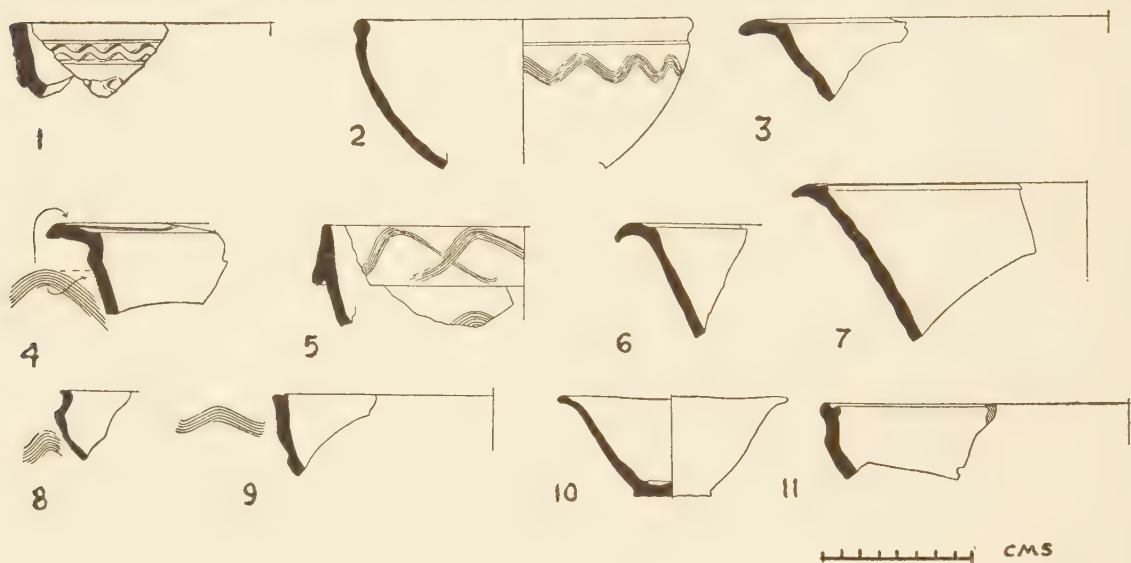


FIG. 9.

NO.	DESCRIPTION	DEPTH IN METRES
		BELOW DATUM
1	Bowl or dish. Buff with grey centre. Wavy groove. Indented carination.	5.45-5.20
2	Light red ware; lightly combed band.	3.80-3.40
3	Hard warm buff ware, greyish-buff surface.	6.50-6.00
4	Basin rim. Hard light red ware, grey in centre. Diameter, c. 60 cm.	5.45-5.20
5	Bowl fragment. Red-brown, grey centre.	5.45-5.20
6	Hard buff ware, grey centre.	6.50-6.00
7	Deep bowl. Hard red ware, greyish-buff surface.	3.80-3.40
8	Fine metallic brown ware, greyish surface.	3.80-3.40
9	Hard greyish-buff, grey centre.	5.20-5.00
10	Roughly made bowl; fairly fine reddish-buff ware.	5.00-4.50
11	Metallic greyish-brown ware with fine white grits.	5.45-5.20

the excavators to date the bulk of the pottery from that group to the sixth or early seventh centuries A.D. Our shaft suggests a somewhat longer range, and the associated coins, which mostly belong to the seventh century, lead us to believe that the highest undisturbed layer in which these wares occur, i.e. the top of the loose grey refuse at about 2.0 m. below the datum, was deposited not earlier than the second half of the seventh century, and perhaps even later.

¹ *P.E.F. Annual*, Vol. V, pp. 81 ff., and p. 79. Cf. Pl. XIV. In the so-called 'Street Level' and the rather more mixed 'Area 16'.

EXCAVATIONS AGAINST THE N. WALL, JERUSALEM

Of the intrusive elements in the southern half of the sounding, the stone chips yielded no pottery; but in a pocket of dark earth and gravel which filled the bottom of the construction trench in the corner of the two walls, we

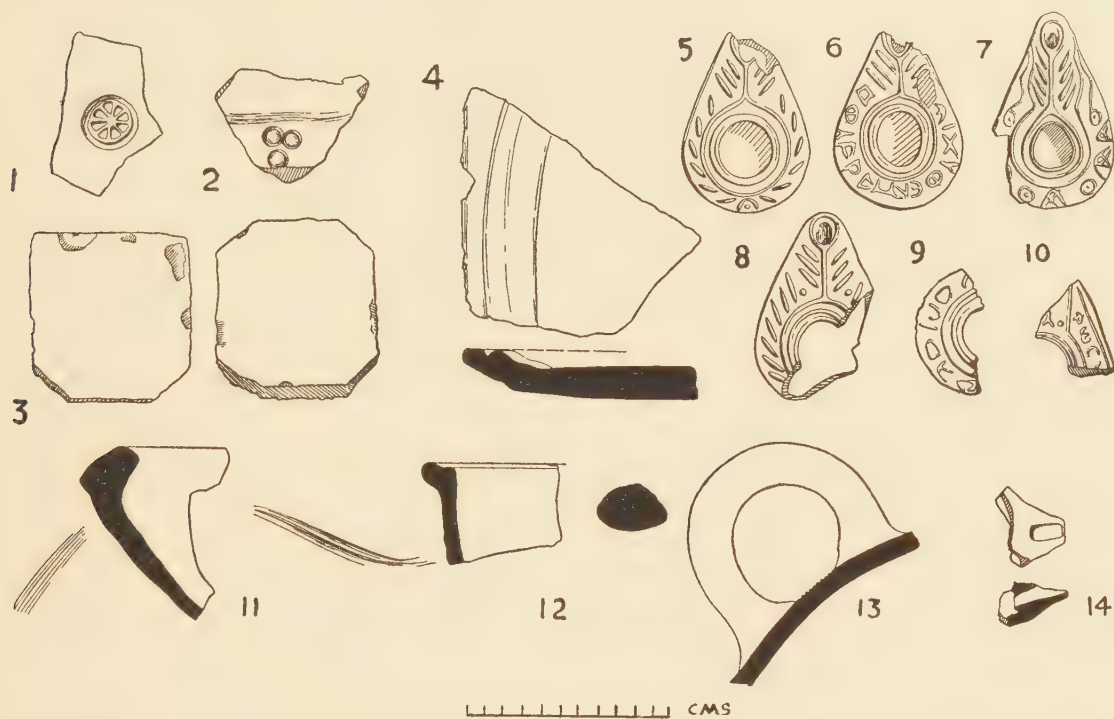


FIG. 10.

NO.	DESCRIPTION	DEPTH IN METRES
		BELOW DATUM
1	Stamped tile fragment. Light red with buff surface.	6.25-6.00
2	Pipe or tile fragment with stamp.	5.40-5.20
3	Floor tiles.	6.25-6.00
4	Fragment of a white marble dish.	6.00-5.40
5	Lamp. Buff, with greenish-white surface.	5.00-4.50
6	Lamp. Buff ware, crudely inscribed $\phi\omega\varsigma \chi(\rho\iota\sigma\tau\omicron)\upsilon \phi\epsilon\nu \pi\alpha\varsigma\iota$. . .	5.00-4.50
7	Lamp. Buff ware.	3.80-3.40
8	Lamp. Buff ware.	5.20-5.00
9	Lamp fragment. Buff. Crudely inscribed.	4.50-4.00
10	Lamp fragment. Buff. Inscribed $\phi\omega\varsigma$. . .	6.00-6.50
11	Bowl rim, buff with greyish centre. Wavy combed band outside.	2.60
12	Bowl rim. Buff, with cream surface. Shallow wavy grooves outside.	2.60
13	Jar handle. Pale buff ware. A horizontal combed band passes around the body of the pot through the handle.	3.80
14	Lamp fragment. Dark reddish-brown, gritty ware.	3.80

found, at 4.30 m. below datum, the stamped jar handle shown on Pl. XI, 20, 21 (cf. Fig. 11). The handle is from a large store jar in buff clay. The stamp (Pl. XI, 20), is in Cufic and probably names the town from which the jar or

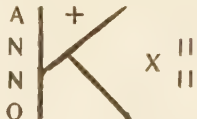
its contents derived.¹ Another fragment from the bottom of the same construction trench is the punctured sherd, in grey ware, shown on Pl. XI, 19.



FIG. 11.

The contents of the cesspit consisted mainly of loose black earth containing Turkish sherds, with scraps of iron and other refuse of comparatively modern appearance. These are not illustrated here, but one fragment of a bowl in blue and black glaze is shown on Pl. XI, 16.

Coins. Most of the coins found in the shaft were badly preserved. The following is a list of those which could be at least partially identified.² Numbers 21 to 28 are coins excavated from undisturbed soil west of the original sounding when the rains made it necessary, in the spring of 1938, to enlarge the area of the shaft at the higher levels.

<i>Metres below the datum</i>		<i>Date</i>	
No.			
1	8.10	<i>Obv.</i> Emperor's bust.	2nd cent. A.D.
		<i>Rev.</i> City-goddess standing l. holding in r. a bust, with l. resting on sceptre or spear.	
2	5.92	<i>Obv.</i> Bust of Maurice Tiberius (?) facing.	6th cent. A.D.
		<i>Rev.</i> Inscription obliterated.	
		 Struck at Antioch	
3	5.50	<i>Obv.</i> Bust of Maurice Tiberius facing.	A.D. 595/6
		<i>Rev.</i> Inscription obliterated.	
			

¹ The reading is uncertain, especially the bottom word. The first two words seem to be *min balad* (من بلد) 'from the town of . . .'. An alternative reading for the first word, *mann* (مَن), a weight of about 12 lb., seems much less probable, though the word is used in connexion with the oil harvest of the villages near Jerusalem by Nasir-i-Khusrau in A.D. 1047.

Two identical stamps on similar handles exist in the Palestine Archaeological Museum. They were found at Ophel, but neither the context nor the date is known. Other similar handles have the stamp من دير شمويل *min Deir Shamwil*. Deir Shamwil, presumably the same as the present village of Nebi Samwil, is mentioned by Maqdisi as lying in a secluded position one parasang from Jerusalem.

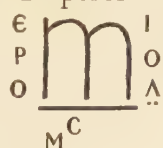
² For the identifications I am grateful to Mr. Jalil Baramki.

EXCAVATIONS AGAINST THE N. WALL, JERUSALEM

No.	<i>Metres below the datum</i>			<i>Date</i>
4	5.50	<i>Obv.</i>	Bust of Anastasius r.; around, DNANASTASIVS PP AVG <i>Rev.</i> K; on left a cross.	A.D. 491-513
5	5.50		Very worn. Probably Ummayyad.	7th-8th cent. A.D.
6	5.10	<i>Obv.</i>	Constans II, standing facing, hold- ing in r. a long cross; in l. globus cr. Inscription obliterated, EN...	A.D. 641-668
<i>Rev.</i>	A N A + N E O m			
7	4.95	<i>Obv.</i>	Bust of Heraclius facing. Inscrip- tion ... ON HRA ...	c. A.D. 613
<i>Rev.</i>	A N N O + M III double struck CON			
8	4.95	<i>Obv.</i>	Constans II	A.D. 641-668
<i>Rev.</i>	A N + M ? NS			
9	4.85		Much worn. Probably Anastasius I.	5th-6th cent.
10	4.80	<i>Obv.</i>	Heraclius, Constans, and Martina.	A.D. 610-641
<i>Rev.</i>	+ M CONS			
11	4.50	<i>Obv.</i>	Bust of Tiberius II facing. Inscrip- tion DM ... CON STANTPPAV.	A.D. 580-1
<i>Rev.</i>	A N N O + m 91 CONF			
12	4.43	<i>Obv.</i>	Constans II standing facing, hold- ing sceptre in r. and globe in l.	A.D. 641-668
<i>Rev.</i>	+ A K E O ? m around [EN]T⁸[TONIKA]			

No.	Metres below the datum			Date
13	4.43	Obv.	Constans II standing, facing.	A.D. 651-656
		Rev.		
14	4.35	Obv.	لا اله الا الله وحده	Ummayyad
		Rev.	محمد رسول الله	7th-8th cent. A.D.
15	4.00	Obv.	Constans II standing facing, in r. long cross, in l. globus cr. letter K in field r.	A.D. 641-668
		Rev.	м	
16	2.60	Obv.	لا اله الا الله وحده	7th-8th cent. A.D.
		Rev.	Obliterated.	
17	2.40	Obv.	Justin II and Sophia seated facing;	A.D. 565-578
			DNIVSTINVS PPAVG	
		Rev.		
			??	
18	2.25	Obv.	Caliph standing.	7th-8th cent. A.D.
		Rev.	м Very badly worn.	
19	From cesspit.	Worn		Ayyubid or Mameluk
20	1.00-1.50 From reddish earth	Obv.	Nur ed Din Mahmud Ibn Zangi	A.D. 1146-1173
			الملك العادل	
		Rev.	محمود ابن زنكى	
			on margin ضرب بدمشق سنة	
21	4.00	Obv.	Byzantine: Emperor standing facing.	7th cent. A.D.
		Rev.	м	
22	3.25		Arabic coin. Worn.	?
23	2.90	Obv.	لا اله الا الله وحده	7th cent. A.D.
		Rev.	(centre) محمد رسول الله	
			(around) بسم الله ضرب هذا الفلاس بدمشق	
24	2.90	Obv.	Byzantine: Emperor standing facing.	7th cent. A.D.
		Rev.	м	

EXCAVATIONS AGAINST THE N. WALL, JERUSALEM

25	2.90	Early Arabic <i>Obv.</i> Emperor standing. <i>Rev.</i> 	7th cent. A.D.
26	2.20	Byzantine or Ummayyad <i>Obv.</i> Emperor standing facing. <i>Rev.</i> + Λ ? M E	7th cent. A.D.
27	2.40	<i>Obv.</i> لا اله الا الله وحده (area) (margin) illegible <i>Rev.</i> محمد رسول الله (area) (margin) عشرة ومئة	8th cent. A.D. (110 A.H.)
28	2.40	<i>Obv.</i> لا اله الا الله وحده <i>Rev.</i> محمد رسول الله; to r. palm branch.	8th cent. A.D.

At this stage in the excavation we had learnt that both the tower and curtain walls, at least down to course 9 of the former, a level below the probable contemporary ground surface, were built of second-hand material, some of which could be recognized as having originally displayed the peculiar surface treatment that appears on the two principal surviving buildings of known Herodian workmanship, the Temple enclosure at Jerusalem and the enclosure round the tombs of the Patriarchs at Hebron. It was natural to conclude that both tower and curtain, whether contemporary or not, were constructed at a time when such Herodian material had become available for reuse by the demolition of buildings belonging to that period. Such an occasion was likely to have arisen only at or after the establishment of the colony of Aelia Capitolina in the second century A.D. In other words the tower, in its present form, and any contemporary parts of the curtain, are monuments not of Herodian Jerusalem but of Roman Aelia. How long after the foundation of the colony the construction of either took place there is only the evidence of the adjacent accumulations to show.

Both course 10 and at least a part of course 9 in the tower were presumably below the ground level associated with the tower at its construction. The fact that the soil lying against those courses contained a substantial proportion of third- or fourth-century pottery can be explained in either of two ways. Either the tower was itself built at or after that time, or, having been built earlier, the lower courses were subsequently exposed and reburied at a time

when third- and fourth-century potsherds could have found their way into the soil. The original ground surface would in this case have been cleared away, and the area of disturbance could not have been determined within the restricted limits of our shaft.

Such a disturbance, involving the introduction of late Roman material into the soil against the foundations of an earlier tower, could be explained if there had been a radical reconstruction of the curtain wall in late Roman times, preceded by a general clearance of the ground outside. At two other points at least in the city wall there is evidence of just such a clearance in late Roman times preceding a construction.¹ One of these is in the Citadel. Pl. V, 1 is a photograph of the wall that encloses, on the east side, the northern end of the citadel yard. The right-hand end of this wall, which in its lower courses incorporates the foundations of the city wall of Byzantine times, abuts on the north face of the Herodian tower now known as the Tower of David. It is known from precise stratigraphic evidence² that the construction of this wall was preceded by an extensive clearance of earlier accumulations against the Herodian tower.

In our shaft there are indications that the same thing may have happened at about the same period.

There is no doubt that the tower, in its present form, was built in conjunction with a city wall and not as an independent structure. Courses 12 and 13 in the curtain, as far as can be seen (Pl. III, 1 and Fig. 4 (ii)) fit closely and accurately with the corresponding courses 10 and 11 in the tower. They appear contemporary. In the courses above, on the contrary, there are inequalities and misfits sufficiently awkward to suggest that numbers 9, 10, and 11 in the curtain belong to a distinct and later construction than the tower masonry on which they abut (cf. Pl. II, 2). At the same time they display definite points of resemblance, both in technique and in materials, to the late Roman wall at the Citadel. Above all they are associated in our trench with the same pottery types that occur in stratigraphic relation with the wall at the Citadel. The conjunction of these facts points clearly to the conclusion that courses 9 to 11, with the possible addition of the first stones in courses 8, 7, 4, and 3 of the curtain, represent the remains of a reconstruction of the north city wall in late Roman times. It is with this construction, here as at the Citadel, that the late Roman or Byzantine pottery types from the bottom of our trench

¹ Cf. p. 40 below.

² Obtained by Mr. C. N. Johns in the course of his recent excavations at the Citadel. The evidence also confirms the late Roman or Byzantine date of the wall. The study of the relevant material is not yet complete, but will form the subject of a future report in this *Quarterly*.

EXCAVATIONS AGAINST THE N. WALL, JERUSALEM

must be associated, and not with the masonry of the tower, which on grounds of style and of general historical probability could more naturally be attributed to an early stage in the history of Aelia Capitolina.

After the reconstruction of the curtain wall, the gradual accumulation of so many metres of soil in the succeeding centuries points to a long interval of neglect. The dumping of rubbish against the wall continued at least until the eighth century, while the wall itself must have fallen into disrepair. When the next reconstruction took place in Islamic times, the builders had several metres of soil to dig away in order to expose the stump of the older wall. This was the trench, refilled with masons' chips, at the bottom of which the stamped jar handle of Pl. XI, 20 and 21, was found.

Soundings at D and E. In order to see something of the inner faces of both flanking towers and also, if possible, to learn more about the gateways between them, our attention was next turned to the two cisterns which occupy the angles between the towers and the intervening curtain wall on either side of the Damascus Gate (Fig. 2).

The cistern on the east side of the Gate is accessible, by a manhole 3.50 m. deep, from the small terrace overlooking the present Damascus Gate steps. It is divided into two vaulted compartments connected by an opening. The southern compartment is partly choked with stones and dry rubbish forming a cone beneath the manhole. The other, in October, was half filled with an expanse of soft spongy mud.

It was immediately obvious that the old gateway was inaccessible from here except with considerable difficulty since the vault of the cistern springs from the side which abuts upon the curtain wall. The face of the adjacent flanking tower, on the other hand, actually forms the east wall of the cistern, and we were able, by knocking off some of the plaster from a bulge in that wall, not only to verify the existence of a moulded plinth at the base of this as of the western tower, but also to follow the moulding into the northern compartment of the cistern, where the return along the northern face of the tower is just visible.

As we were unable to approach the gateway from inside the cistern, a shaft was dug at *D* (Fig. 2) in order to clear as much as possible of the face of the curtain wall above the back of the cistern vault. The existence of an ancient opening in this part of the wall was previously known from the voussoirs that have always been visible inside the Damascus Gate passage. The excavation is shown on Pl. IV, 1. On the left, the junction of the curtain wall with the tower was found to be masked by a screen of mixed masonry built against the west face of the tower above the vault of the cistern. West of this obstruction

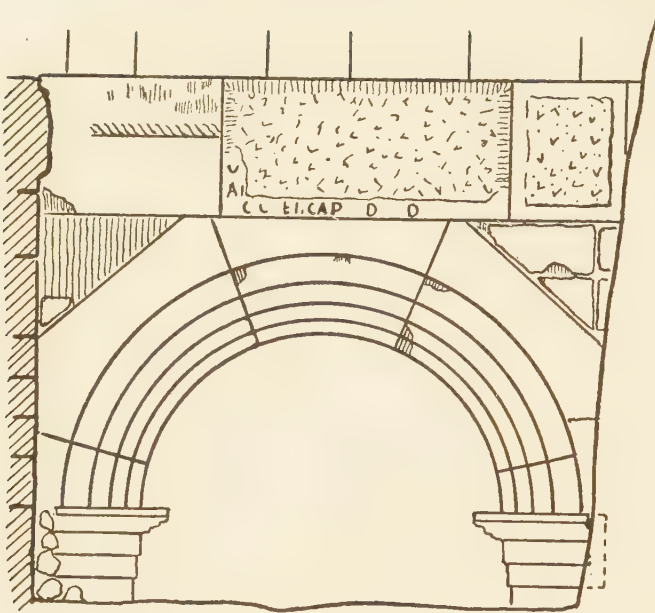


FIG. 12 a

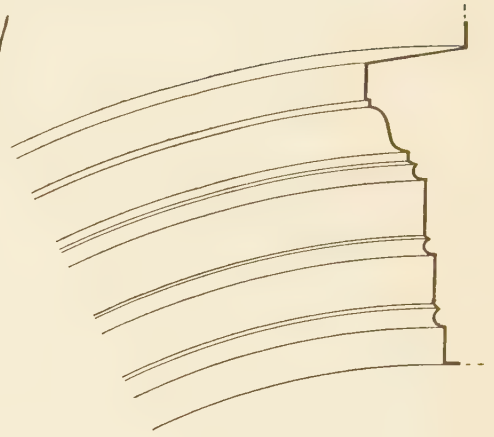


FIG. 12 b

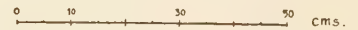
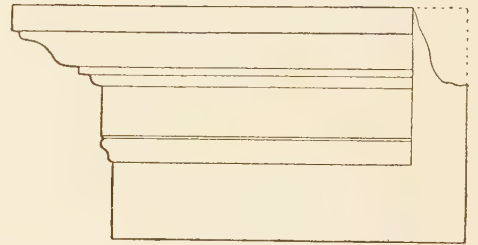


FIG. 12 c

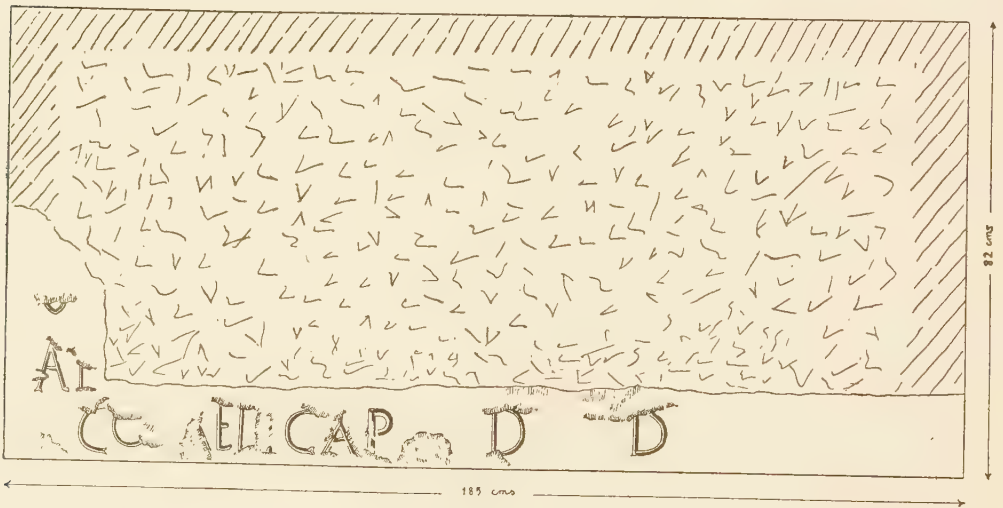


FIG. 12 d

it was possible to clear about 3.60 m. of the curtain wall to a depth of 3.50 m. below the level of the terrace before the masonry of the cistern blocked further

EXCAVATIONS AGAINST THE N. WALL, JERUSALEM

excavation. In doing so we exposed an arch (Fig. 12 *a*) surmounting an opening 2.5 m. wide, now blocked with medium-sized rubble. Of the opening itself only the cornice mouldings surmounting the jambs were accessible.

The arch is composed of five voussoirs of which the lowest on either side is in one piece with the jamb cornice. The profile of this cornice as well as that of the moulding which decorates the face of the voussoirs is given in Fig. 12 (*b* and *c*).

Three stones of the first course above the arch are visible. The stone on the left exhibits, on the upper half, the remains of a horizontal projection, with a cavetto moulding, now mostly knocked away. The projection starts a little short of the left-hand edge of the stone and originally continued beyond the opposite edge toward the right. If in its original position, which a close inspection of the masonry suggests, the moulding presumably formed part of a drip course beneath a niche surmounting the gateway.

The middle stone of the three shows no sign of a continuation of the moulding. On the contrary the whole of the upper part of the face has been chiselled away and only a narrow strip of the original surface, finely comb-dressed, survives along the lower edge of the stone. On that strip there are visible a few letters of an inscription (Pl. IV, 1, Fig. 12 (*d*)). As far as they can be made out they are, along the bottom CO...AELCAPDD. Above the initial c is an A, the first letter of a previous line, the rest of which has been obliterated. The inscription belonged doubtless to a public building and ended with the words COL[onia] AEL[ia] CAP[itolina] D[ecurionum] D[ecreto]. Further than that it is necessary only to note that the spacing of the letters and their relation to the centre of the arch seem to show that the inscription no longer occupies the place for which it was first cut. Not a letter can be seen on either of the adjoining stones.¹

The third of these, on the right-hand side, has recessed margins and a central bossed panel, now mostly chiselled away.

¹ Mr. M. Avi-Yonah contributes the following note on the dating of the inscription: 'The extant fragment of the inscription contains seven letters: A, C, D, E, L, O, and P. Two forms of the A occur: in the upper line (12 cm. in height) with a horizontal bar and in the lower line (9 cm.), where the A has a vertical prolongation at the apex and the bar is slightly inclined to the left. c and D are well shaped; their curvature fits within a square space. E has three short bars of apparently equal length, all slightly turned up. The L is remarkable for its long horizontal arm; this, however, is apparently a freak. O and P have the normal shape of the Imperial period.

'The only letters affecting the dating are A, c, and E. A with a slanting bar occurs from the second century onwards; the well-rounded c lasts till the middle of the second century. The slightly up-turned bars of the E remind one of the peculiar form of Hadrianic inscriptions. From the shape of the letters the inscription can therefore be tentatively dated to the first half of the second century A.D., i.e. to the years 135-150, considering the historical circumstances.'

The relation of these stones, especially of the inscribed one, to the arch has an obvious bearing on the history of the blocked gateway.

On the evidence at present available it seems probable that of the three stones only that on the left, which carries the moulding, is in its original relation to the arch. All three show marks of dressing at second hand.

The shaft at *E* was dug in the space between the eastern face of the other flanking tower and a manhole leading to the western cistern. Pl. V, 2 shows the excavation, with the tower wall on the right and the curtain in front. Not much of the former could be seen, for again the panelled masonry of the tower had been masked by a heavy masonry revetment, of which the top course appeared about 70 cm. below the ground surface. Such of the tower masonry as is visible is of the comb-dressed style, *B*, that appears on the western face.

The composition of the revetment may be judged from Pl. V, 2. Most of the component blocks have a marginal draft and rough boss. In some the boss has been flattened down with a chisel. The whole is clearly a patchwork of borrowed materials, probably medieval in date.

At the foot of this wall there is a plastered bench or shelf, which returns against the curtain wall. Beside and upon it was a mass of loose fallen stones which passed under the side of the shaft and made it inadvisable to carry the excavation lower.

In the meantime the curtain wall was seen to comprise three elements. The first three courses below the ground are identical in character with the wall above and are probably of Turkish construction. They do not bond with the revetment on the right, which appears to be earlier. Below these courses the wall is plastered, and what remains of the plaster can be seen to have been painted with black and grey-blue panels within a red border. The border is 26 cm. wide along the bottom and 14 cm. along the right-hand side. The lower edge coincides with the top of the bench. The plastering overlaps the rough masonry of the revetment. Toward the left side of the excavation the plastered surface is interrupted by three rough projecting stones, wedged with chips, which suggest the blocking of an opening or gap. The smoother masonry that carries the plaster seems to pass behind the revetment on the right and is clearly earlier in date than anything else visible in the shaft.

The exploration of the cistern was complicated by the presence of several feet of water, the level of which, in mid-summer 1938, was some 7 m. below the top of the manhole shaft. It proved beyond the capacity of the strongest pump available—that of the Municipal Fire Brigade—to lift water from this depth, so that buckets had to be used. This was a laborious method as the shaft was too narrow for any but a small bucket to pass.

EXCAVATIONS AGAINST THE N. WALL, JERUSALEM

The cistern is not quite a parallelogram. It is vaulted with a single barrel vault of rough stones, the axis of which lies north-west and south-east. The west side of the vault abuts on the east face of the west tower. There are two manholes, of which only one, at the south end of the cistern, is now in use. The shaft of this manhole is built of coursed masonry and has been twice heightened. Rope marks visible on the third course from the bottom suggest that the original opening was associated with a floor related to the bench at the bottom of the tower revetment. The cistern may consequently be the work of the same builders. The second reconstruction starts at a level corresponding to the beginning of the Turkish masonry in the curtain.

When most of the water had been removed by means of buckets through this manhole, the bottom of the cistern proved to be filled with an expanse of soft mud of unknown depth. Along the west side, however, there was a shelf, partly covered by a pile of rubble, on which it was possible to walk with safety.

The removal of the rubble, and of a hard rendering of lime and crushed brick that covered the shelf, revealed the masonry structure shown on Pl. V, 2. It is composed of large drafted blocks, one of which is shown to a larger scale on Pl. III, 3. Only one course of this structure was cleared. It varies between 1.03 and 1.10 m. in height and corresponds, in this and in its level, with course 9 in the west face of the tower.¹

The south wall of the cistern had also to be stripped of a hard coating of plaster. The masonry behind is shown on Pl. VI, 1. The lowest course exposed is continuous with the structure on the right and contains an enormous block, 3.80 m. long. The masonry above is of nondescript appearance, but there is a straight vertical joint at 1.90 m. from the western boundary of the cistern (Pl. VI, 1). The stones immediately to the right of this joint are three in number. The face of the middle one is fairly smoothly dressed and shows traces of comb-pick tooling. The lowest has lost its original surface, but still projects some centimetres in front of the plane of the wall. If these stones formed part of the jamb of an opening, this projection may represent the mutilated remains of a base moulding. The level and height of the lowest stone correspond almost exactly with the level and height of course 8 in the west face of the tower.

The masonry to the right of these stones is much smaller and resembles the masonry composing the rest of the south wall of the cistern. No other vertical straight joint is visible.

¹ The upper edge of the exposed course has been roughly chiselled away, presumably by the builders of the cistern.

A comparison of Pl. III, 3 with Pl. II, 2 and III, 2 will show that in style and technical treatment the big masonry in the cistern is identical with the *A* style masonry in shaft *A* and with the masonry at the base of the south-east corner of the Temple Area. It is clear that we need look no further for the building that supplied stone for the construction of the panelled tower and its moulded plinth. The stump survives in the big course in the cistern. Its plan can be inferred from what is left (Fig. 2). It was more massive than the panelled tower that replaced it, though the western sides of both may coincide. It is possible that course 10 in the tower at *A*, or even course 9, may have been found intact and adapted as it stood by the builders of the *B* masonry; the level and dimensions of course 9 permit it.

It is beyond the present purpose to do more than state the facts observed. It is therefore enough to remark that this early building, if clear marks of style in masonry mean anything, proclaims itself a product of that period of architectural activity which received its most spectacular impulse from the policy of Herod the Great. The plan and materials of the secondary panelled tower and plinth presuppose the prior demolition of the early building. The triple gateway, of which parts of the two side openings have been seen, relates itself naturally with the second period. Of this only can we be certain that it falls between the foundation of Aelia Capitolina and a probable repair of the curtain wall in or before the fourth century A.D. The fragment of an inscription of Aelia Capitolina, re-used in a repair of the eastern side gate, may once have surmounted the gate itself.

Sounding B. The excavation at *B* was made in order to examine a section of the wall near a point where there were further signs of an early construction in the panelled masonry familiar from the Damascus Gate. The point chosen was immediately east of the first tower in the wall east of Herod's Gate or Bab ez Zahireh. The present ground level outside the wall here slopes from a high dump of modern rubbish on the west down to the hollow where the remains of the now ruined Birket el Hijjah can still be seen on the east. The lower courses of the broad tower which overlooks the birkeh from the south-west are composed of drafted stones, evidently re-used in their present position, but suggestive of the existence in the vicinity of a structure similar in style to the towers at the Damascus Gate. The sounding was made against the curtain wall between this and the neighbouring tower on the west.

Before starting work we noticed that while the masonry of the wall as a whole was very mixed, containing many drafted stones with more or less pronounced boss, and others evidently re-used, the lowest two courses on the contrary were quite regular in finish and jointing, contained no

EXCAVATIONS AGAINST THE N. WALL, JERUSALEM

drafted stones, and were consistently dressed smooth with the comb-pick (Pl. VII (1)).

The sounding consisted of a shaft 3.0 m. wide by 4.0 m. long dug at right angles to the wall. The length was reduced by one quarter at a depth of 1 m. from the surface, and again by 80 cm. at a level 2.0 m. lower. From there it was carried without further reduction down to rock (Pl. VII (2)).

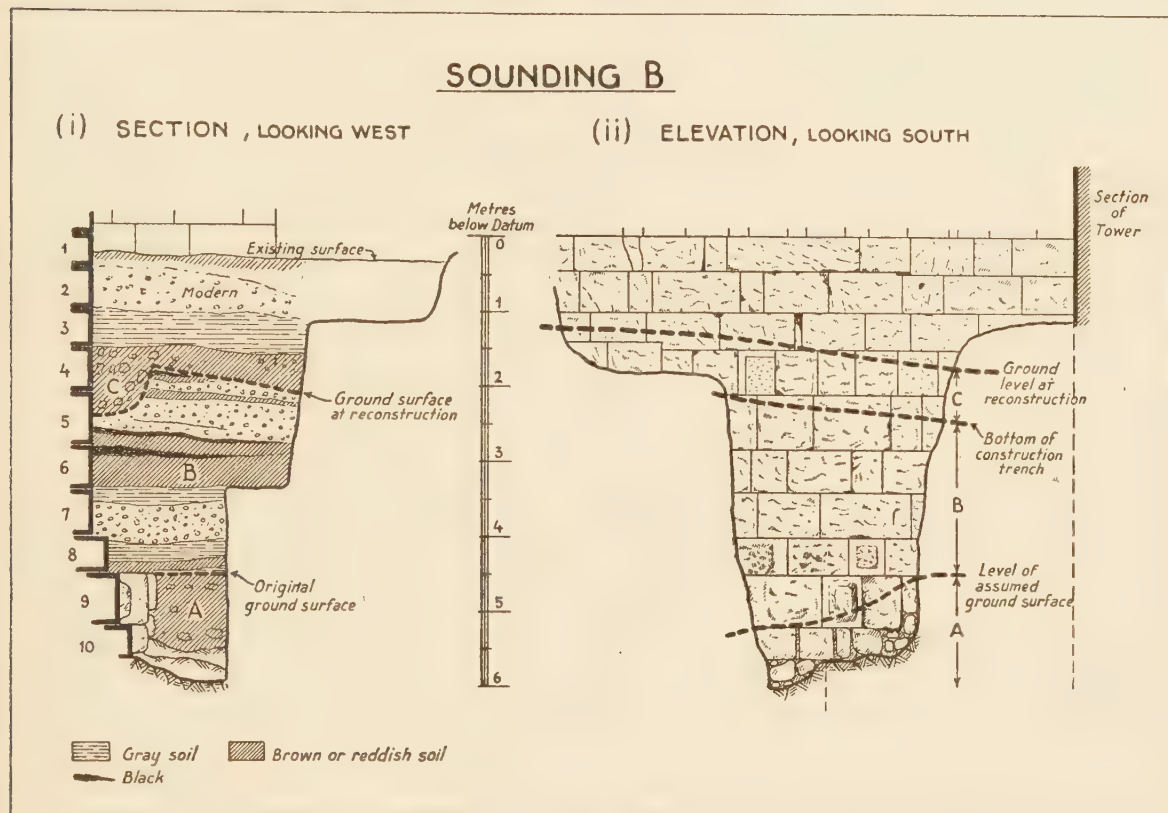


FIG. 13

Fig. 13 shows (i) a section through the excavated soil against the wall; (ii) the exposed wall in elevation. In the section the courses have been numbered serially for reference, number 1 being the highest regular course in the wall at this point.

The ashlar courses exposed are seven in number, laid with a minimum of mortar, with close joints and fairly consistent comb-pick dressing. One stone in course 4 is a re-used fragment of a drafted block with point-dressed centre.

Course 8 projects 20 cm. in front of the main wall face and is of rougher

masonry, the stones being chisel-dressed only at the margins. Of course 9 four stones were exposed, of which the two on the east project 15 cm. in front of course 8, and the two on the west about 50 cm. The dressing varies from a comb-finished stone on the left, resembling those in the wall above, to a stone with rude projecting boss, and roughly point-dressed margin, next to it. Course 10 is partly built of rubble, fitting the irregularities of the rock surface. As the rock slopes eastward an eleventh course, also of rubble, appears on the left-hand side of the sounding.

Although the seven courses of dressed masonry are superficially alike, closer inspection shows that in fact courses 1 to 4 belong to a later construction than 5 to 9. Leaving out of account the rougher footing courses, the distinctive features of the earlier masonry of 5 to 7 consist firstly in the softer quality of limestone used, which has so weathered that on many stones the tooling is no longer visible, whereas in courses 1 to 4 it is still quite sharp; secondly in the proportions of the stones themselves. Courses 5 to 7 measure 70 cm., 58 cm., and 64 cm. in height respectively, giving an average of 64 cm. Courses 1 to 4 are only 42, 58, 50, and 60 cm. high, with an average of 52.5. In courses 1 to 4 the long stones are on the whole longer in proportion to their height than the longest stretchers in 5 to 7.

These differences might not justify the conclusion that the two sections of the wall are the work of different hands. What makes this certain is the stratification of the debris. From the middle of course 5 downwards the lines in the section run evenly up to the face of the wall. Above that point for about 1 m. they are interrupted, against the wall, by an intrusive filling of loose rubble. This is clearly the filling of a construction trench connected with the building of courses 1 to 4, and dug at a time when the lower parts of the wall were covered by an accumulation of soil of which the surface is represented in the section by the highest intercepted line (Fig. 13, i). On the opposite side of our shaft the construction trench was as clearly visible. Its position in relation to the wall is shown projected on the plane of the elevation in Fig. 13, ii. It is clear that when the reconstruction of the wall took place, the ruined stump stood higher towards the east. The step that can be seen in the joint between courses 3 and 4 suggests that the eastward continuation of course 4 may preserve some more of the older masonry.

The lower section of the wall, with its rougher footing courses, rests on the rock. Although no construction trench could be detected in the section here, it is reasonably clear which parts of the adjacent soil preceded the building of the wall and which accumulated later. The soil which abuts on course 8 shows no sign of disturbance and must have accumulated after the construction of

EXCAVATIONS AGAINST THE N. WALL, JERUSALEM

courses 9 and 10. At the east side of the shaft the same layers of soil, sloping downwards to the east, abutted without interruption on course 9. Below them, and down to the rock, was a layer, 1 m. thick, of brown, rather compact, earth containing stones and potsherds. Almost exactly on the surface of this brown earth were found three complete cooking pots, one of which half rested on the shelf formed by the left-hand end of course 10. The compact earth below these pots must be earlier than the wall since the small rubble of the footings postulates a concealing layer of soil. The pots therefore seem to have been placed on the ground about the time the wall was built.

The trench dug by the builders of the wall need have been no wider than the footings, and in fact the section shows no disturbance in the lowest brown soil. It is reasonably certain therefore that the bulk of the pottery in that soil, below the top of course 9 on the right, and of course 10 on the left, antedates the construction of the wall.

The Pottery. Before examination the pottery was accordingly sorted by levels into three classes. The lowest, *A*, consisted of sherds found at depths¹ between 5.20 and 6.00 m. below a datum fixed at the top of course 1. All such sherds came from the brown soil marked *A* in Fig. 13, 1, and therefore antedate the lower parts of the wall. *B* contains sherds from 2.40 m. below datum down to 5.20 m., mostly rubbish accumulated after the building of the first wall, but including some of the surface soil at that time. The third class, *C*, from 2.40 m. upwards, includes sherds from the construction trench of the upper wall and from the accumulations that formed after that wall was built. It also includes (between levels 1.60 and 2.40) the latest deposits from the accumulations that preceded it.

The classification gave the following results:

A. Between 5.30 m. and the rock (6.00 m. at the lowest point). Jar fragments were mainly of thin hard wares, buff or light red, sometimes grey in section, with paler buff or cream surface. The surface was either smooth or very lightly ribbed. Ribbing where perceptible was always rounded (Fig. 14, 5 and 6). Jar handles are flattish in section, comparatively small, and often rather clumsily botched on to the shoulder of the jar. The commonest neck form has a rounded, everted rim. Sometimes the neck is cylindrical, more often as in Fig. 14, 1. The rims of Nos. 2, 3, and 4, also occur.

Cooking pot fragments are in a red-brown ware, smooth to the touch, and sometimes very thin-walled. A round-bodied and a sharp-shouldered type both occur (Nos. 7 and 11).

No lamp fragments were found below 5.20 cm., but Fig. 14, 8 shows a type

¹ Allowing, here and throughout, for the slope of the strata.

of nozzle of which five examples were found between 4.75 and 5.20 m., and this probably represents the current shape.

The pilgrim flask, Fig. 14, 9, with twisted handles, was represented by a few fragments, also the fragile bottle, No. 10. Besides these, three sherds of the egg-shell thin ware, now identified as Nabataean, were found.

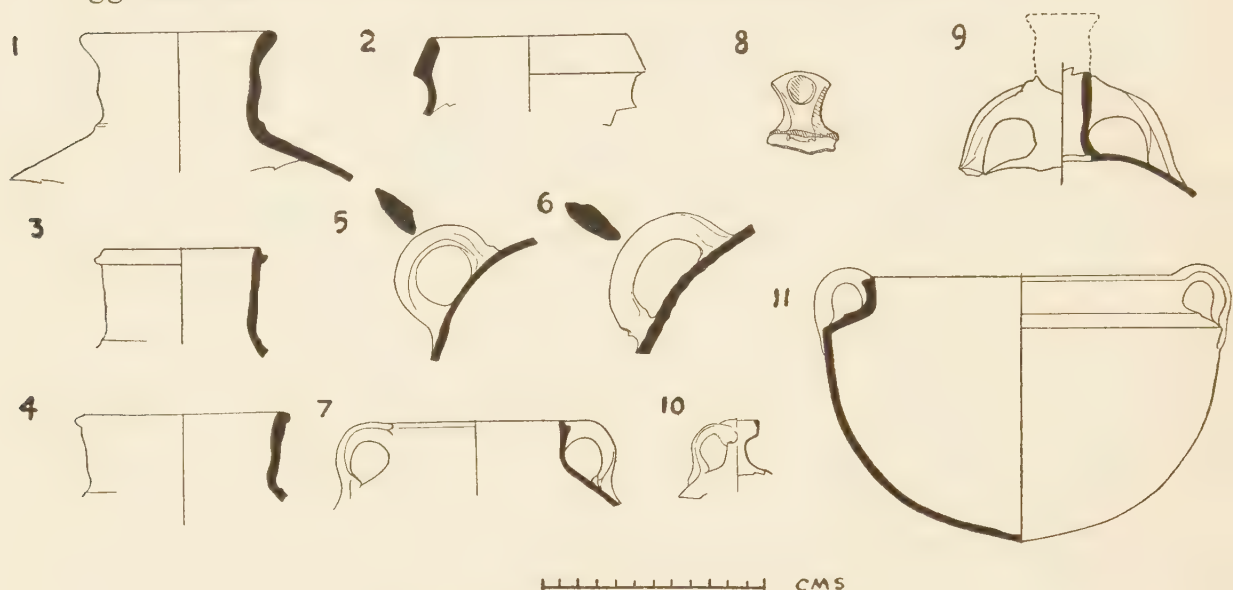


FIG. 14. Sherds from Shaft B. Lowest layer.

NO.	DESCRIPTION	LEVEL IN METRES BELOW DATUM
1	Jar neck. Buff ware, grey core, pale buff surface.	5.20-6.00
2	Jar neck. Light red ware, pinkish-buff surface.	"
3	Jar neck. Light red ware, buff surface.	"
4	Jar neck. Buff, grey core. Cream surface.	"
5	Jar handle. Light red ware, cream to buff surface.	"
6	Jar handle. Grey ware. White grits. Greyish-white surface.	"
7	Cooking pot rim. Brownish-red ware. Some fine white grits.	"
8	Lamp nozzle. Greyish-buff ware. Smooth grey surface. One of five found at	4.75-5.20
9	Fragment of pilgrim flask. Hard grey ware, cream surface. Also found in warm buff ware with cream surface.	5.20-6.00
10	Bottle fragment. Fine greyish-buff ware. Pale grey to cream surface.	"
11	Cooking pot. Reddish-brown ware. The specimen drawn is from a tomb at 'Isawiye.	"

B. 5.20-2.40 m. Most of the types characteristic of *A* recurred in the lower levels of *B*. They were, however, practically confined to the lowest 70 cm., which included part of the upper surface of the brown soil composing *A*.

What is significant is the sudden appearance at or soon after 5.00 m. of a number of new types which subsequently persisted in abundance throughout *B*.

EXCAVATIONS AGAINST THE N. WALL, JERUSALEM

In jar fragments an immediate change occurs. From 5.00 m. upwards ribbed sherds are very common. The form of the ribbing varies in different parts of the pot, but is always easily distinguishable (Fig. 15) from the faint rippling on sherds from the lower level. Wares are now generally thicker than in *A*, but still hard and well-baked, with some fine white grits. Jar handles are much larger, bolder in form and thicker in section. The ridged section (Fig. 21, 8), sometimes humped (Fig. 21, 7), is characteristic. Jar necks are generally reinforced at the rim, either by a flattish external fold (Fig. 21, 2 and 3) or by an internal thickening (Fig. 16, 2), or both together. There is often an exaggerated ridge at the junction of the neck (Fig. 16, 2).



FIG. 15

Apart from ribbing, other forms of surface ornament on coarse sherds (not necessarily jars) include bands of combing (straight or wavy), a shallow wavy groove, or in some cases, a narrow strip of clay pinched on the surface of the pot with thumb and finger (Fig. 16, 6).

In addition to the normal two-handled, ribbed jar (Fig. 16, 1), a distinct and also common type of jar (Fig. 21, 5) in a heavy brick-red or reddish-brown ware, with high neck and straight vertical handles, began to appear during the period represented by *B*. In a rather coarser, though similar, ware is a jar represented only by fragments of necks and handles (Fig. 21, 10). The neck is no more than a rim round the mouth of the jar. Fragments of this type first appeared at 3.50 m. and remained common up to 1.70 m. below datum.

Cooking pots in *B* are illustrated by the three which were found complete on the presumed ground surface at the date of building the wall. Fig. 16, 7 shows one of them. The ware of these pots is slightly gritty to the touch. Fig. 23, 18 shows a typical rim profile, also in a gritty ware, closely related to these. Both the round-bodied and the sharp-shouldered cooking pots characteristic of *A* still occur, but the second was not found above 3.75 m. below datum. A new species of cooking pot, the saucepan of Fig. 6, 8, is common throughout *B* from 4.75 m. upwards. A narrow-necked bottle in cooking pot ware (Fig. 16, 5) occurred at 3.80 m.

Fig. 16, 16 is a typical rim profile of a class of deep bowl or basin which occurred first at about 4.75 m. and remained common till 2.50 m. below datum. It appears in various well-baked wares, buff, light red, reddish-brown, and greyish-fawn. The surface is often cream. Closely related is Fig. 16, 15 differing mainly in the form of the rim. This simpler form of rim appeared first at 3.50 m. and may be a slightly later variant. Some of the many varieties

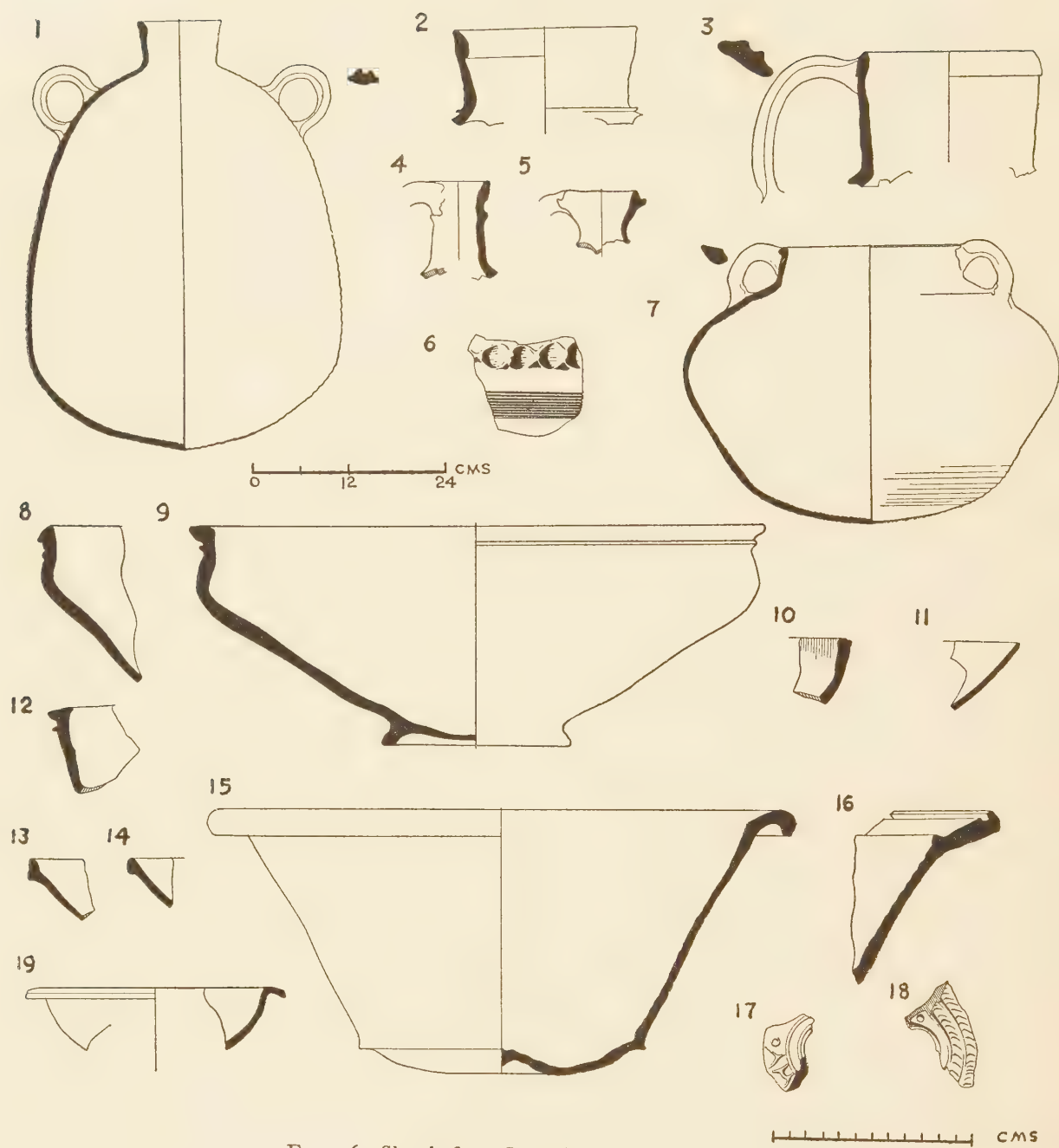


FIG. 16. Sherds from Sounding B. Upper layers.
(See descriptions at top of facing page.)

EXCAVATIONS AGAINST THE N. WALL, JERUSALEM

NO.	DESCRIPTION	LEVEL IN METRES BELOW DATUM
1	Light red ware with greyish-white surface. The pot drawn, as a specimen of the type, is from an early Byzantine tomb on the Museum Site.	
2	Jar neck. Buff, with paler buff surface.	3.40
3	Fragment of a jar or jug. Light red ware. White grits. Number of handles uncertain.	3.70-4.00
4	Neck of bottle. Greyish-buff ware. Cream surface flaking off. Cf. Fig. 23, 7.	3.40-3.90
5	Bottle neck in red-brown cooking pot ware.	3.70-4.00
6	Jar fragment with applied pinched band and combing. Buff.	3.40
7	Cooking pot. Thin rather gritty red-brown ware. Found resting on the ledge formed by course 10 at east side of sounding.	5.20
8	Bowl fragment. Reddish-brown ware. Red-brown wash all over. Diam. about 30 cm.	4.00-4.35
9	Type specimen of bowl, with rouletting and brown surface wash. Restored from fragments.	
10	Bowl fragment. Brown ware, grey in section, dark brown surface wash over rouletted pattern on the outside. Diam. 22.8 cm.	2.70-3.15
11	Indian red ware, semi-matt slip of same colour. Approximate diam. 23.5 cm.	2.70-3.15
12	Bowl rim. Light red ware, fine white grits. Matt red slip or wash, inside and out. Diam. about 33 cm.	4.35-5.20
13	Dark red ware, semi-matt slip of same colour. Diam. 24 cm.	1.60
14	As last. Diam. 21.5.	1.50-1.85
15	Hard greyish-buff ware, pale buff surface.	3.10
16	Basin fragment. Greyish-buff ware, fine white grits. Cream surface. Diam. 44 cm.	4.35-5.20
17	Lamp fragment, with Greek letters. Buff.	1.60
18	Lamp fragment, light red ware, pale buff surface.	1.60
19	Bowl fragment. Red-brown ware, with surface wash of the same colour, darkening to dark brown on the outside.	2.70-3.15

of rim profile (common to this shaft and to sounding *C*) are given on Fig. 22, 33-49. The surface of these basins is either plain or relieved by bands of wavy or horizontal combing; less commonly by a shallow wavy groove. Rim diameters vary up to 50 cm. or more.

Another important ware characteristic of *B* is a well-made bowl in a warm buff or reddish-brown clay, often grey in the section, with a few fine white or dark grits.¹ Generally the ware is partially covered with a wash or thin matt slip, which varies from light brown or red, to a very dark brownish-black. Beneath this wash the outer surface is often decorated with a rouletted pattern; the varieties of pattern are almost limitless (cf. Pl. XI). The commonest shape is as in Fig. 16, 9, but in addition to an immense variety of rim profiles (Fig. 16, 8, 10, and 12) the proportions and forms of the bowls themselves are by no means stereotyped. In particular the bulge in the sides is not always so pronounced nor so high up in the bowl, so that bowls are often nearly hemispherical. The last appearance of this ware was at 1.70 m. below datum; the first at 4.80.

Lamp fragments were very few in *B*. The square-nozzled type did not

¹ Cf. on sounding *A*, p. 10.

occur higher than 3.80. Above that only a couple of small sherds of the round early Byzantine type with small nozzle were found (cf. Fig. 23, 19 and 20).

A few pieces of late sigillata ware occurred between 3.00 and 1.60 m., the last from a level equivalent to the highest point of the ground surface when the wall was repaired. With one exception all these fragments are of red ware and have a semi-matt slip of the same colour (Fig. 16, 11, 13, 14). The exception, which is a fragment of a double handle, is buff in section under a thin, but rather better, red varnish. It occurred at 2.50 m. below datum.

C. 2.40 m. upwards. The accumulations marked *C* are mainly subsequent to the reconstruction of the wall, except for the lowest levels, between 2.40 and 1.60 m. below the datum, which include the top surface of the soil that already existed when the wall was rebuilt. In these levels several fragments of types characteristic of *B* recurred.

What are significant, however, are those types which now appeared for the first time. The first of these was a dark, greyish-brown ware, with dark grey ribbed surface, which appeared in addition to the usual buff and red ribbed wares in ordinary two-handled water jars (cf. p. 10 above and Fig. 21, 6, and 9). At 1.60 m. this ware was found decorated with white painted loops and spirals.

A second important introduction is the same hard greyish-buff ware that occurred associated with the grey ribbed water jars from 7.20 m. upwards in the shaft against the Damascus Gate tower (Fig. 8). The first fragment of this kind from *B* was found at 1.80 m. below the datum.

Two lamp fragments (Fig. 16, 17 and 18), one with remains of a Greek inscription, the other probably Islamic in date, came from 1.60 m.

Another new type, probably early Arab, is a heavy grey ware with straight and wavy bands of rouletted ornament (Pl. XI, 17). This was found at 1.60 m. below datum.

A great deal of rubbish has been dumped against this section of the wall in recent years, and we found that the first metre and a half below datum contained mixed refuse from all periods between the Byzantine and the present day. The useful sequence ends, therefore, at about 1.50 m.

Only four coins were found in this sounding.¹ One of these, a coin of Herod

¹ No.	Level in metres below datum	Description	Date
1	5.20	Coin of Agrippa I. Umbrella on one side; three ears of barley on the other.	A.D. 42/3
2	4.75	<i>Obv.</i> Ear of barley. Inscribed KAICAPOC <i>Rev.</i> Palm Tree. L M	A.D. 9/10
3-4	1.90	Fragments of two coins, probably late Roman(?) or early Byzantine.	4th cent. A.D.

EXCAVATIONS AGAINST THE N. WALL, JERUSALEM

Agrippa I, dated A.D. 42/3, was from the lowest brown soil at 5.20 m. below datum. The second, also probably from the same soil but about 45 cm. higher, is dated A.D. 9/10. The third and fourth coins are both fragmentary, but are probably of about the fourth century A.D. They came from the filling of the construction trench, *C* (cf. Fig. 13, 1, p. 27).

Little else of importance was found in the shaft. The top metre of the accumulations forming *B* contained large quantities of loose tesserae and chips like the waste of a mosaic-worker's shop.

Pl. IV, 2 shows some fragments of moulded stucco, which were found in reddish soil at 3.30 m. below datum.

The results of this sounding were disappointing in that we learnt from it no more of the history of the panelled style of masonry, which we had hoped might be found here in position. Nevertheless the stratification confirmed the sequence of pottery types observed in sounding *A*. It also repeated the evidence for a construction in the third- or early fourth-century, followed by an interval in which rubbish containing the rouletted type of pottery accumulated against the wall. What was new in the information provided by the shaft was the fact of a reconstruction of the wall in the sixth or seventh century, when the band-polished grey-buff ware had become current. At sounding *A* the introduction of that pottery was associated with the occurrence of a thick layer of rubble and chips strewn in the corner between the tower and the curtain (p. 11 above), but not with any positive evidence of a reconstruction. Of any wall earlier than the third- to fourth-century pottery, which accumulated after the building of courses 5 to 10, there is no evidence in this shaft.

Sounding C. The last point on the wall to be examined was at *C* on Fig. 1, where some vestiges of a rubble and concrete structure were visible on the high ground between the present Jericho Road and the first tower to the west of Herod's Gate.

Very little clearance of these remains was needed to show that two distinct lines of fortification existed at this point, one represented by the present wall with its projecting tower, the other by a rock scarp, which still carries the remains of rubble and masonry superstructures, some 9 m. farther north (Pl. VIII, 1). The scarp, which displays the base of a projecting tower roughly corresponding in size and position with the tower in the present wall, forms the south side of a fosse cut through what was once a northward extension of the Bezetha Hill, and dividing the high ground of the present Edhe-miah Cemetery from the city. To-day this fosse is partly filled up, and the modern Jericho road runs through it.

Fig. 17 (i) is a plan showing the position of a number of trenches dug

against the present wall and the rubble structure for the purpose of examining their foundations and the accumulated debris against them.

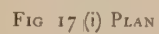
The foundations of the present wall were seen at five different points, *ABC*, *DE*, *FG*, *HI*, and *JK* on the plan. Except at *JK* the trenches were carried down to rock.

Pl. IX, 2 is a photograph of the foundations of the wall at *A*; IX, 1 shows the corner at *B* and the small exposed section at *DE*. At *AB* the wall above ground displays the moderate sized mixed masonry characteristic of Islamic work, either Mameluke or Turkish (Pl. VIII, 1). It rests, immediately below ground level, on three courses of plain comb-dressed ashlar (Pl. IX, 2), resembling the masonry in shaft *B*, and measuring 62, 58, and 57 cm. in height respectively. At *B*, where the rock level drops, there is a fourth course of similar masonry 75 cm. high. The fourth and third courses are set forward to form steps 20 cm. and 10 cm. wide respectively. At *A*, where the third course is the lowest, it rests on a regulation course of dressed stones 15 cm. high. The whole of this masonry stands on a foundation of unsquared stones and rubble, which is carried down to the natural sloping surface of the rock. The rock strata here fall from west to east about 0.75 m. in 5.00 m. From north to south they are roughly horizontal.

The base of the tower exposed at *BC*, *DE*, and *FG* (Pls. IX, 1; X, 1) differs slightly in construction. The mixed masonry of the 'Islamic' wall is here carried down three courses lower than in the curtain. Then comes a single course of smooth-dressed masonry, corresponding to and continuing the lowest dressed course at *AB*. This rests in turn on a projecting course of large blocks, 1 m. 10 cm. high. The appearance of this course immediately recalls the late Roman or Byzantine work at the Citadel and at the Damascus Gate. Each block has been either wholly or partially redressed at second hand. Those stones in which the secondary dressing is incomplete can be seen to display the same features as the *A* style masonry at the Damascus Gate, that is to say they have a comb-dressed margin and a point-dressed centre, with a narrow combed border (Pls. X, 1 and IX, 2-3). The builders who placed these blocks in their present position preferred for some reason to knock off the raised panels, roughly dressing them down flush with the original margins, but not troubling to retouch these or to conceal the fact of re-use (cf. Pl. X, 1). At *DE* they were content, it seems, to redress only that part of the stone which projected above the ground level.

This course rests in turn on a footing largely composed of fragments broken from drafted blocks of the same kind, style *A*, and resting either directly on the rock, or, where that falls (from *G* eastwards), on further footings of rubble

SOUNDINGS AT C



EXCAVATIONS AGAINST THE N. WALL, JERUSALEM

resembling the foundations at *AB*. The big course extends along the north face of the tower as far as *I* (Fig. 17, ii). From here the structure represented by this masonry disappears, except for some of the rough foundations, and is replaced by more recent work. Of the lowest comb-picked course only two stones survive, at *F'*, on the north face of the tower (Pl. X, 1).

Apart from the obvious fact of redressing, it is clear from numerous fractures along the bottom edge of the big course, and from the presence of fragments of the same style of masonry in the footings, that in their present position the drafted stones are re-used at second hand, as were the similar stones at sounding *A*. The comb-picked masonry, on the contrary, appears to have been cut, as well as dressed, for its present place in the wall.

The Rock Scarp. The course of the rock scarp, so far as it has been seen, is shown on Fig. 17, i. Beginning at *M* on the west, it runs east for 10 m. to *N*; then north to *O*; then east again until the falling strata disappear below the level of the present road at *P*. West of *M* any continuation of the scarp has been quarried away in the great quarry of which Solomon's Caverns form an underground extension to the south, and Jeremiah's Grotto to the north. As it is, the exposed rock strata are cut through at *M*, and south-west of it along a line receding diagonally to *L*, where they meet the line of the present wall.

The upper surface of the scarp conforms to the tilted beds of the rock. Nowhere has it been levelled off or specially prepared for the masonry built upon it. This masonry consisted of a rubble concrete core with a facing of cut stone set in mortar (Pl. VIII, 2). At *MN* the stone facing continues the sloping plane of the scarp, but at *NO* it is vertical, and set back 30 cm. from the edge of the rock shelf on a cushion of concrete about 30 cm. thick. From about 2.0 m. north of *N*, the stone facing has been removed, with much of the concrete core behind it. Enough, however, survives here and at *RST* to show the probable plan of the tower. The north-east corner had been destroyed to a greater depth than we were able to excavate; but a sounding dug at *Q* struck a mass of rubble concrete with a rough masonry facing which seems to represent a continuation of the main wall line east of the tower.

The wall, as seen at *MN*, had no inner masonry face and was structurally little more than a revetment retaining the higher ground behind (Fig. 18 (ii)). Its rubble core is set in a poor mortar mostly composed of earth. The tower on the contrary, though similarly devoid of any inner facing, was compacted of a very hard lime concrete, and was structurally an independent building, forming a rectangle open on the south side. At *ST* the tower is carried down to within 20 cm. of the rock, from which it is separated by a layer of hard reddish earth and gravel. At *UV*, on the other hand, the inner face rests on a lower and

apparently independent rubble wall which passes southwards until it meets the footings of the big masonry at *F'* (Pl. X, 1). This lower wall rests directly on the rock. It is separated from the superimposed rubble core by a thin layer of red earth.¹

Aqueduct. A third constructional feature has still to be mentioned. This is an aqueduct, which was found running from north to south along a line that passes under the present city wall at *A*. The north end of the aqueduct is severed by the rock scarp at *MN*, and the end has been stopped up with rubble (Pl. VIII, 2). The channel is 50 cm. wide, cut in the rock to a depth varying from 75 cm. at the north end to some 1.25 m. farther south, and rendered with a lime plaster containing sand, ashes, and ground flints, backed with broken jar fragments. The edges of the channel are roughly rebated to take the ends of limestone slabs, laid across it at the slope of the rock surface. The interstices between the cover-stones are filled with rubble. At 15.60 m. south of the rock-scarp the channel opens out into an inspection chamber 3.25 m. long and about 2.65 high (Pl. X, 2). The walls of the chamber are of rubble, built on the rock sides of the channel, and set back from them by about 12 cm. on each side. The roof is of flat limestone slabs. At the north end there is a square shaft of rough masonry and rubble giving access to a circular manhole 4 m. above the bottom of the channel. The north wall of the chamber rests partly on the end cover-stone of the channel, partly on the rock. It is built of roughly-shaped blocks amongst which is a squared and dressed limestone slab bearing the funerary inscription of a centurion named Tiberius Claudius Fatalis² (Pl. X, 2).

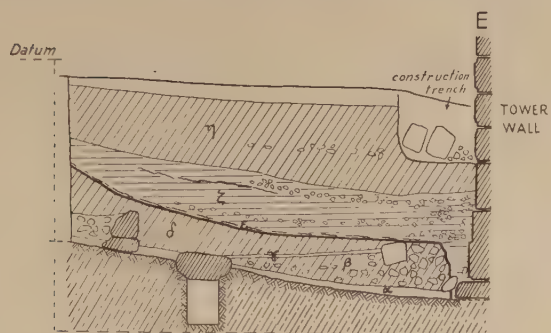
The stone is an integral part of the structure of the chamber. The upper walls of the chamber are not rendered except beneath the manhole, where there are fragments of a lime plaster rendering with a lime-wash finish. This plaster contains rather fewer flints than the rendering of the channel, and proves on analysis to contain traces of calcium sulphate, which is absent from the latter.

South of the inspection chamber the channel continues as before, but the plaster at the south end of the chamber curves inwards in a way to suggest that at some time the channel was either partially or wholly closed at this point. To the south the rock sides of the channel are not rendered. 7.50 m. beyond the chamber a square shaft, built of rubble and rendered with a mud mortar, gives access to a second manhole. Two metres farther south is another and

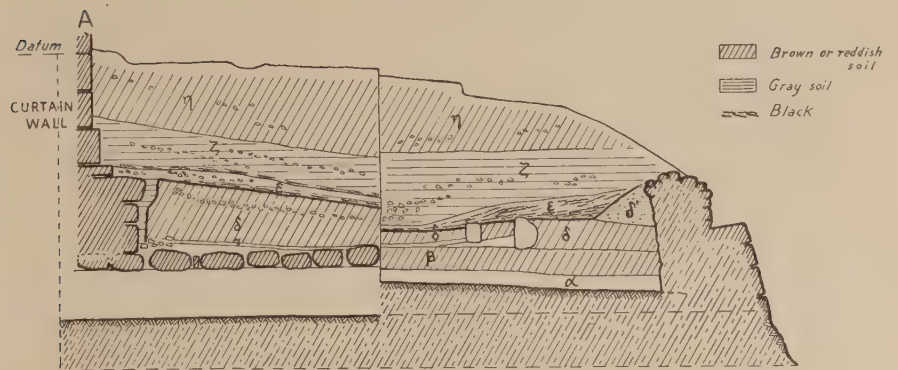
¹ This wall seems to be unconnected with the rubble tower and to be an earlier construction than anything else seen in the sounding, including the foundations of the present tower at *F'*. We know nothing else about it.

² Published by M. Avi-Yonah in *QDAP*, Vol. VIII, pp. 54-7.

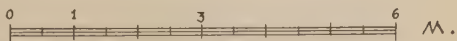
Figure 18. SOUNDINGS AT C



(i) SECTION 44.



(ii) SECTION 33.



EXCAVATIONS AGAINST THE N. WALL, JERUSALEM

1.35 m. beyond that yet a fourth. Both the last two manholes are closed with flat stone slabs about 80 cm. above the roof level of the channel. The shaft of the first is considerably higher. The channel is blocked, at 33 m. from the rock scarp, by a fall of earth and stones from the roof. Throughout the length of the channel there is a deposit of clayey mud on the bottom. This is 10 cm. thick in the inspection chamber, but much deeper farther south and also in places to the north.

The Sections. The history of these structures, the scarp walls, and aqueduct could not properly be understood without a study of the stratified soil lying against them. For this purpose two long trenches were dug perpendicular to the present wall at *A* and at *DE*. From these two trenches independent sections *z-z'* and *y-y'* were obtained through the accumulations lying against the curtain wall and the west face of the tower respectively. These sections are shown on Fig. 18.

The accumulations were composed of more or less clearly distinguished layers. These are differentiated in the sections by hatching and marked for reference with Greek letters. α is a layer of yellowish clay that immediately overlies the rock wherever that has been seen. It contains a few small fragments of pottery as well as chips of the rock itself. Above this a layer of rather bright red soil, β , containing quantities of loose shingle, patinated red, and a certain number of sherds. This layer deepens toward the east, where at *DE* it was crossed, and partly, it seems, retained by a rough line of loose stones running nearly parallel to the wall of the tower. To the west β tapers to nothing about the line of the aqueduct; which, however, it crosses farther north, actually overlying the cover-stones (Fig. 17, ii). This is useful since it shows that the aqueduct existed before the formation of β and all subsequent accumulations. The next important layer, δ , is composed of brown soil. In one form or another it appeared in most of the trenches cut against the present wall. Towards the north, where it continued right up against the back of the rubble wall built above the scarp at *NM*, it was very compact and contained a high proportion of potsherds and gravel. The upper part of its thickness, δ' on Figs. 17, ii, and 18, was very largely composed of broken pottery, part of a heap of sherds tipped towards the north and east from some centre lying outside the area of our excavations. The original extent of this heap is not known. Southwards it extended at least to *L'*, where it was subsequently dug away for the foundation of the present wall. East of that point, and of a curved line passing roughly through *E'* to *X*, the soil containing the pottery disappeared, having evidently been dug away in antiquity by an extensive excavation, the result of which was to leave a saucer-shaped depression in the

top of δ , rimmed, toward the west and north, with the remains of the pottery dump cut by our sections, and there appearing as δ^1 . The ground surface as it then lay is indicated by the thick line in the sections of Fig. 18, i and ii.

It appears from the sections that the clearance of the pottery dump was closely associated in time with the construction of the foundations. All the layers in the debris from δ downwards are interrupted at a certain distance from the curtain and tower foundations by an ancient cutting of which the filling is different both in colour and consistency from the adjacent soil. It is clear that this is a construction trench connected with the building of the walls. Against the curtain wall the filling of the trench is greyish in colour and composed partly of disintegrated mortar, resembling earth that can be extracted from between the rubble of the foundations. Against the tower the cutting is also filled with greyish earth, mixed with rubble, which is noticeably looser in texture than the brown soil composing the adjacent accumulations.

Above these layers the soil ran without change or disturbance up to the face of both walls, passing over the projecting footings of the curtain at *A*. It is clear that this soil could only have accumulated after the construction of the foundations against which it lies. The ground level at the time of building is consequently represented by the top of δ , the highest of the interrupted layers.

It follows from this that in spite of the difference in their appearance the curtain and tower foundations are in fact contemporary, or at least nearly enough so for the ground not to have risen between the construction of the one and the other. Farther east, as it happens, along the north face of the tower (cf. Fig. 17, ii) the big course itself rests on rough foundations similar to those at *A*, *B*; it cannot therefore be inferred from the disparity between the foundations of the tower and curtain at their junction, that the two are the work of different hands.

The ground surface at the junction sloped from west to east, as well as northwards. The ashlar courses in the curtain were consequently carried progressively lower toward the east. Nevertheless the upper parts of the footings were allowed to show (as they were in the Roman-Byzantine wall at the Citadel and in the contemporary wall at sound *B*) and the actual junction must have appeared rather clumsy.

After the building of the walls the ground lay waste for a time, it seems, and the greyish debris marked ζ , of which ϵ , a thin and intermittent line of ash, is the first instalment, accumulated in the shallow depression left by the builders, and gradually covered what was left of δ and the pottery dump. ζ is mainly composed of refuse, ash, and loose stones dumped from the west toward the

EXCAVATIONS AGAINST THE N. WALL, JERUSALEM

tower. Later the dumping stopped and a thick layer, η , of brown soil was formed.

This formed the surface of the ground when the builders of the Islamic masonry reconstructed the upper part of the wall. Both tower and curtain had by then been dismantled, and the remains of the tower were already buried. The trench dug to disengage it can be seen in the section at *E* (Fig. 18, i). It was just deep enough to expose the top edge of the highest ancient course preserved. In the curtain wall at *A* (Fig. 18, ii) the old work still projected above ground and the new masonry could be built without excavation on the exposed stump. The ground has not risen appreciably since that time.

The sequence of events can now be recapitulated as follows:

1. The aqueduct was hewn in the rock and covered with its slabs.
2. The brown soil of β and δ was deposited, and upon it the heap of broken pottery.
3. Part of the pottery heap was cleared away, and the curtain wall and tower were constructed on their present line.
4. ϵ , ζ , and η were deposited.
5. The curtain and tower were rebuilt in Islamic times.

At some point in this sequence we have still to fix the quarrying of the rock scarp, and the construction of the rubble wall and tower upon it.

There are two obvious facts which have a bearing on this question. The first is that the fosse must have put the aqueduct out of action. The scarp is therefore a later work than the aqueduct, including the inspection chamber and the inscribed stone built into it. It is later, too, than the latest of the jar fragments that back the rendering of the channel.

The second significant fact is that the rubble structure on the rock scarp must be later than, and for a time have superseded, the earliest tower on the present line. This can best be seen from Fig. 17, ii, or from the photograph on Pl. X, 1, which shows the relation of the rubble tower to the lower courses of the present wall at *FG*. The stratification of the soil against the present tower at *G* showed clearly that the ground level here when *FG* was built corresponded to the bottom of the footing course on which the metre rod is standing in Pl. X, 1. It can be seen that the remains of the rubble structure on the right (*U* on Fig. 17, ii) project nearly 2 m. above that level, and thus mask the corner of the tower at *F*. If the present tower had been a later construction it is inconceivable that its builders should have allowed such an obstruction to remain projecting immediately in front of an important point in the new line. It is safe, therefore, to conclude that the rubble tower and, with it, the rubble wall and scarp, were built after the lower courses in the present line.

The lie of the adjacent soil did not help much toward fixing the chronology of the rubble structures. The outer face of the wall had been exposed until recent times and, like the top of the tower, was partly visible at the start of excavations, so that the soil against it was either disturbed or entirely modern. Internally neither tower nor wall had any ashlar facing. The wall was simply built against a bank of soil, which may have been cut back but was not otherwise disturbed. In consequence there was no construction trench to give a clue to the level reached by the soil at the time of building. Similarly, since the rubble composing the tower was small and easy to handle, the builders had only to excavate a trench of the required size, with sides vertical or nearly so, and then ram it full with rubble and concrete. The result is that, beside the concrete itself, there was no intrusive filling in the builders' trench to show the distinction between soil that accumulated after the operation and that which existed before.

There were, however, two partial exceptions to this. At *WX* it could be seen that the bottom of the builders' trench had first been filled with a loose packing of rubble and earth on which the hard concrete had then been built up. The difference between this packing and the bright red earth of β was clear, and it was equally clear that the builders had had to dig through β , which was thus shown to have been already in existence when the tower was built (cf. Fig. 17, ii).

The second point was of more importance. At a certain level in the accumulations, both at *W*, and within the rectangular area enclosed by the rubble tower, through which a long section was made from *ST* to *U* (Fig. 17, i), we encountered a very noticeable layer of lime, which appeared to mark some sort of ground surface. The position of this layer is marked in both places on the long section of Fig. 17, ii. At *WX* it ran up against the side of the rubble tower at a level about 42 cm. above the bottom of the greyish layer 3. The debris below this layer was distinctly more compact than that above, while the looser soil above had the look of rubbish and stones tipped at hazard against the face of the tower. Similarly, within the tower, the lime layer ran right up against the inner face of the rubble, and divided a more compact filling below from a looser one above. It seemed a possible and even a probable interpretation of the facts that this was the ground level at the time when the rubble structures were built and that the lime was a relic of the building operations themselves.

If that is correct, it follows that the rubble constructions, and presumably also the scarp, were separated in date from the building of the earlier wall and tower by an interval corresponding to the accumulation of that part of the greyish soil which lies below the lime layer.

EXCAVATIONS AGAINST THE N. WALL, JERUSALEM

Fig. 19 is a section through the debris against the present tower at *H*. It completes rather than adds anything to the evidence of the other sections. Once again the construction trench for the big foundations of the present wall is very clear (2), and gives the clue to contemporary ground level. All that separates that ground level from the lime layer is a shallow but compact layer of yellowish gravel and clay (3). Above the lime layer is about a metre

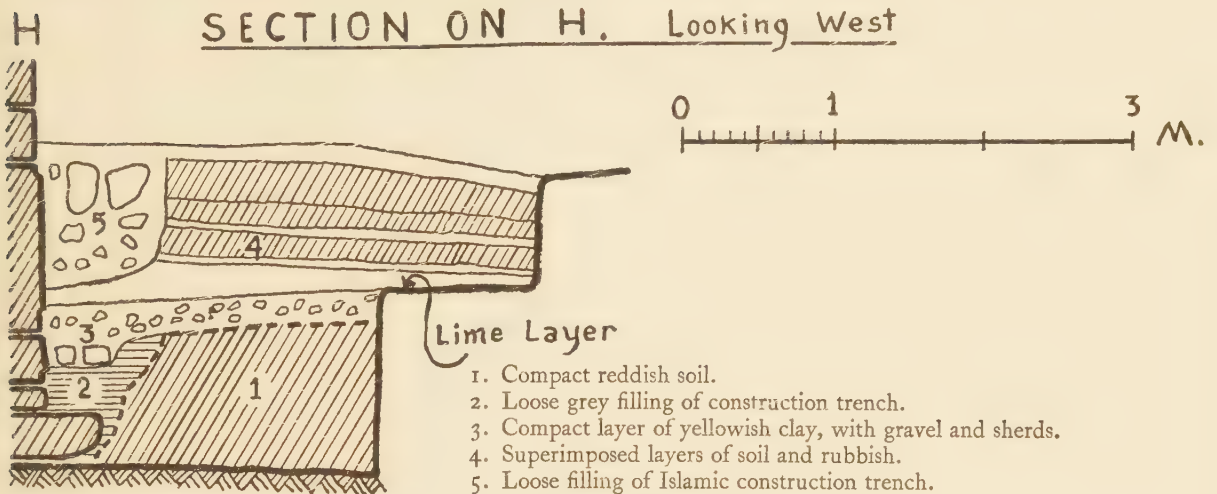


FIG. 19.

of alternating soil and rubbish (4), through which the construction trench of the present Islamic wall is dug (5). Scarcely any accumulation has taken place since then.

The Pottery. The pottery needs no detailed description since it repeats groupings of types that have already occurred at soundings *A* and *B*. Two such groups could be distinguished in the various trenches at *C*, and the transition from the one to the other coincided with the ground level shown by the stratification to have been contemporary with the construction of the present wall line.

The lowest distinguishable layer, α , yielded only a few sherds mostly in a soft buff ware, but nothing large enough to identify.

From β , γ , and δ the material was identical with the pottery from the lowest level at shaft *B* (Fig. 20, cf. Fig. 14). As at *B* the bulk of the plain sherds were thin and without ribbing except for a slight waviness on the surface of jars and cooking-pots. Square lamp nozzles were frequent (cf. Fig. 14, 8), and one fragment of the round Roman lamp with sunk centre and small filling hole came from the top surface of δ (Fig. 20, 12). In addition to the jar rims given in Fig. 14, Nos. 1 to 3 on Fig. 20 were common. The usual

cooking-pot was the round-bodied form (Fig. 20, 4), but there were also fragments of the square-shouldered type of Fig. 14, 11, especially in δ . The narrow-necked bottle (Fig. 20, 13), also in cooking-pot ware, was less common than either, and No. 14 was the only sherd of its kind.

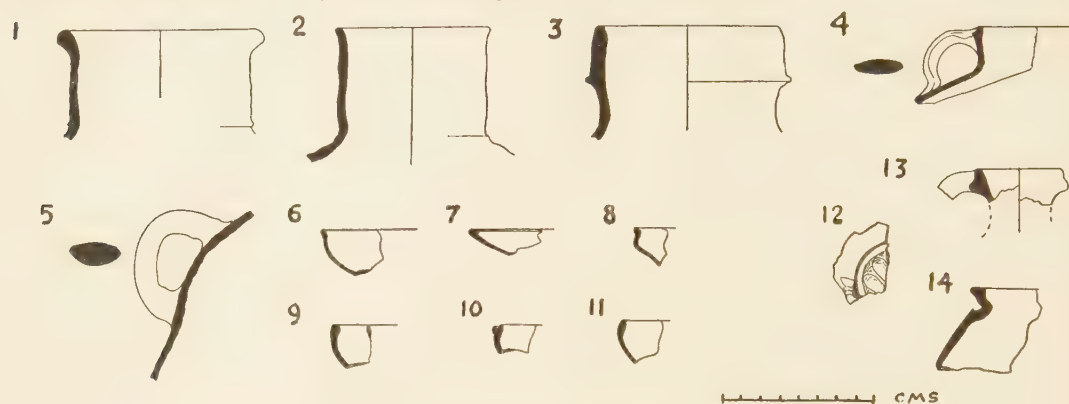


FIG. 20. Pottery from Sections y-y' and z-z', mostly layers β - δ .

NO.	DESCRIPTION	LEVEL
1	Jar neck. Buff, greyish in centre.	δ .
2	Hard light red ware. Evenly baked.	Top of δ .
3	Light red ware, cream to buff surface.	β - γ .
4	Cooking-pot. Light reddish-brown, fairly fine texture and smooth surface.	Low in δ .
5	Jar handle. Hard buff ware. Evenly baked.	δ .
6	Fine buff ware. Diam. 15.4 cm.	γ .
7	Fine buff ware.	From foundation cutting in front of the first regular course of DE.
8	Buff ware, grey centre.	δ .
9	Fine buff ware, traces of light red paint.	Found between two cover-stones of the water channel, i.e. probably γ or δ .
10	Fine greyish ware, with traces of a dark wash on the surface.	ditto
11	Fine buff ware.	γ .
12	Lamp fragment. Light red ware. Reddish-brown wash. Corner at B.	Top of δ , possibly ϵ .
13	Bottle neck. Red-brown cooking-pot ware.	δ .
14	Cooking-pot. Brick-red ware, rough surface. Rim diam. 22.4 cm.	Low in δ .

Nos. 6 to 11 are fragments of delicate bowls in a thin buff ware; with them must be grouped a few fragments of red painted Nabataean pottery from layers γ and δ , and other thin hard sherds with blobs of dark brown paint. Only one piece of *sigillata* was found, a fragment of a small bowl in a fine biscuit-coloured ware with a good quality of red glaze.

In addition to all these there were a certain number of Iron Age and Hellenistic sherds.

EXCAVATIONS AGAINST THE N. WALL, JERUSALEM

Four coins only were found, all of them in layer δ . Three of these were of the first century A.D., the fourth a Maccabean coin of the first century B.C. (cf. pp. 50–2 below).

For the chronology of the walls it is, of course, the latest sherds and coins that are significant. It is clear that the bulk of the pottery from the soil prior to the construction is either Hellenistic, or Roman of the first two centuries A.D. There were, however, a certain number of individual exceptions to this rule. From layer δ a few sharply ribbed sherds did in fact occur amongst a vast majority of smooth or 'rippled' types. There were also one or two fragments of the ridged jar handles that appear on normal early Byzantine water jars (cf. Fig. 21, 8). Such exceptions, though apparently isolated, are enough to confirm what the analogy of the other soundings suggests, that the construction of the wall took place in late Roman or early Byzantine times.

The material from the construction trench of the tower was hardly different from that found elsewhere in the lower levels. In the upper part of the trench some ribbed sherds occurred, but the majority belonged to earlier types. One ribbed sherd, and one fragment with rouletted ornament under a dark brown wash came from between the stones forming the rough retaining wall at *DE*.

As at sounding *B*, so here, an immediate change in the pottery marked the transition from the earlier accumulations to those which followed the building of the walls. The types from 3 are identical with those that became normal in the second phase of accumulation at *B*, and in the earliest at the Damascus Gate. Figs. 21, 22, and 23 give a selection of representative types, supplementing those already illustrated from the other soundings (Figs. 6 and 16).

On Fig. 21 the rims (2, 3, and 4) are characteristic of the normal water jar (cf. Fig. 16, 1). That jar, and Fig. 21, 1, 5, and 10 seem all to have been used concurrently. The dark greyish ware of Fig. 21, 6 and 9, is transitional to the later type of water jar with decoration of painted loops.

Fig. 22 shows some of the varieties of rim profiles in bowls and basins. Nos. 2, 3, 4, 9, 10, 12, 15, and 16 belong to the class of bowl with a rouletted pattern under a brown wash, of which the commonest, but not the only form is that of Fig. 16, 9.

On Pl. XI, 8–15, are some examples of rouletted pattern.

Fig. 23 contains examples of miscellaneous types characteristic of η and 3, including lamps, mostly of third- to fourth-century type. No. 29, from the Islamic construction trench, is rather later, probably sixth century.

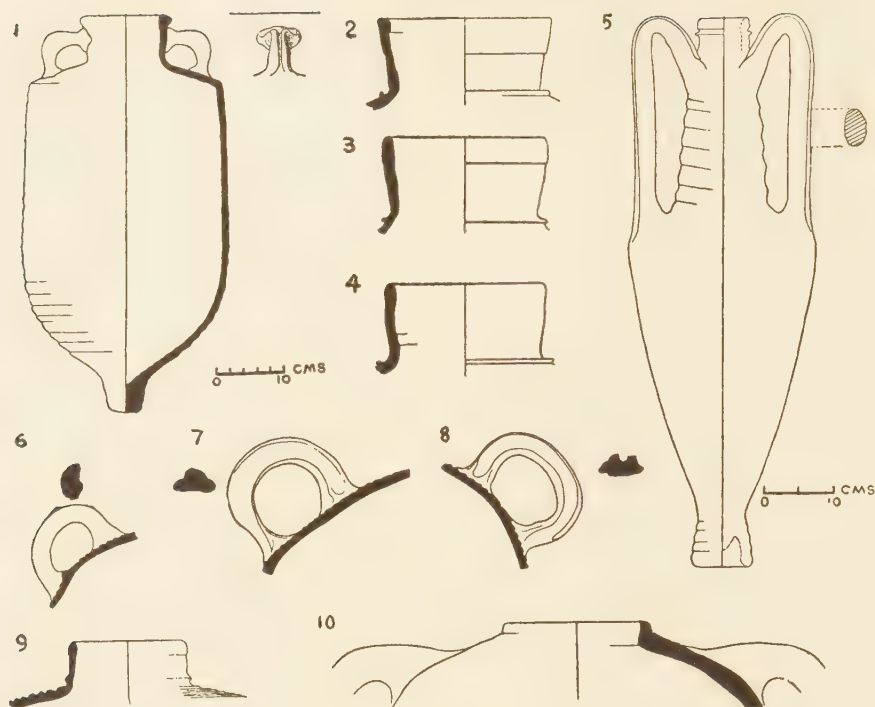


FIG. 2I.

NO.	DESCRIPTION	LEVEL
1	Dark brick-red ware, rather soft and with white grits. The handles are formed apparently by two strips of clay pinched together.	Fragments of this type of jar were found frequently in 3 and η, but rather more commonly in 3. The shape is restored from a nearly complete pot found in the Byzantine Cemetery on the Museum Site. Cf. <i>QDAP</i> , Vol. I, Pl. XVII, 4.
2	Buff ware. Pale surface.	Bottom of 3.
3	Light red ware, buff surface.	Bottom of 3.
4	Buff ware, greyish centre.	High in η.
5	Dark brick-red ware. Some large dark grits.	Fragments of these pots, especially of necks and handles, were common in layers 3 and η at all levels. The shape is restored from a complete jar in the Palestine Archaeological Museum, from Beisân.
6	Darkish red-brown ware, dark grey surface.	Top of η. All sherds of this type found were high in η.
7	Light red ware, white grits, buff surface. The humped cross-section is common in jar handles of 3 and η, but perhaps rather less so than the double-ridged section of No. 8.	3 and η <i>passim</i> .
8	Ware similar to last. The depressions between and on either side of the two ridges along the back of the handle end at the top in neat rounded finger impressions.	3 and η <i>passim</i> .
9	Hard, red-brown ware, grey surface. Cf. No. 6.	High in η.
10	Ware as No. 5. Surface very rough.	Fragments of these rims are found throughout 3 and η.

EXCAVATIONS AGAINST THE N. WALL, JERUSALEM

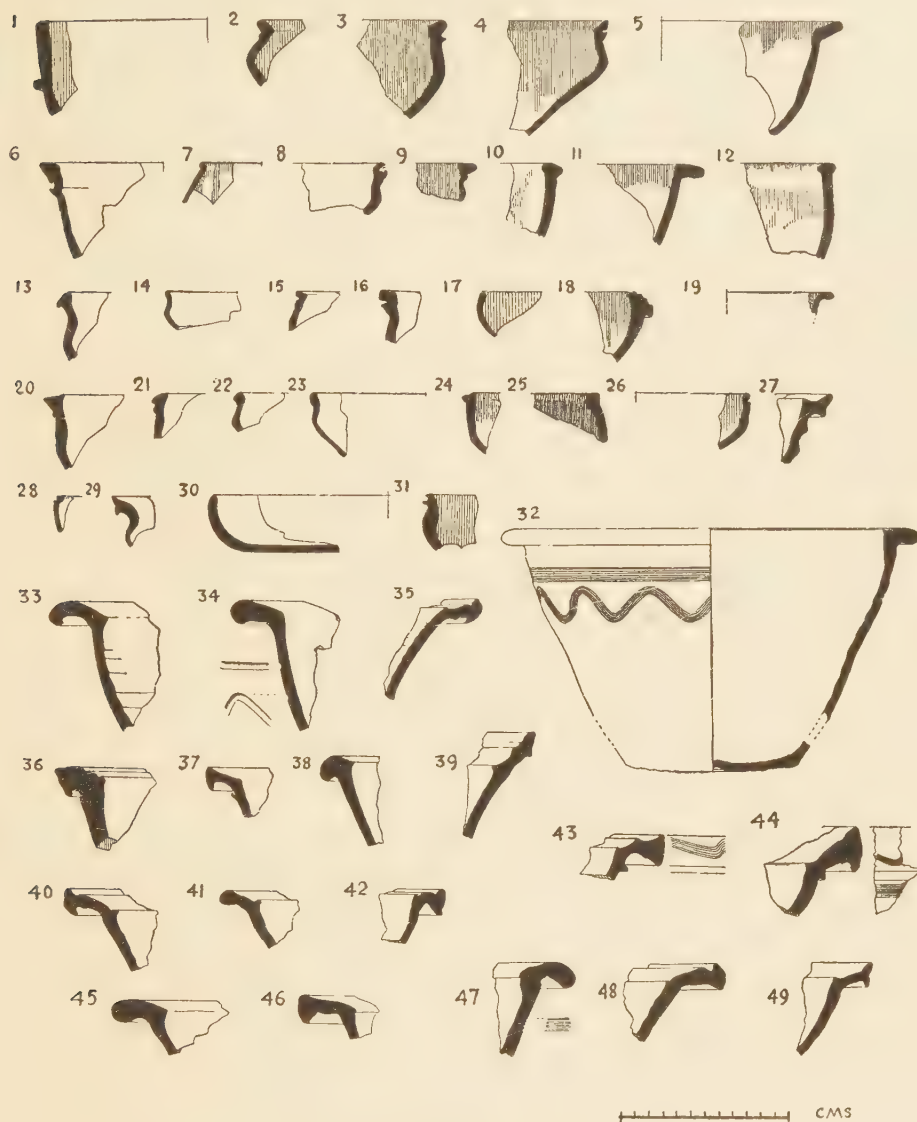


FIG. 22 (1-31 Bowl and Dish fragments).

NO.	DESCRIPTION	LEVEL
1	Buff ware. Pale brown wash, rouletting outside. Rim diam. 23.7 cm.	Top of η.
2	Brownish-buff, with darker brown wash over rouletting. Diam. 28.4 cm.	η.
3	Brownish-buff ware. Brown wash, darker on the inside; over rouletting on outside. Diam. 40 cm.	From within the rubble tower, above lime layer.
4	Red-brown ware, greyish centre, white grits. Brown to black wash over rouletting on the outer surface. Diam. 25 cm.	η.
5	Greyish-buff ware, buff surface. Dark wash over rim and shallow rouletting on outside of the bowl. Diam. 25 cm.	High in η.

R. W. HAMILTON

NO.	DESCRIPTION	LEVEL
6	Reddish-brown ware. Red wash outside over a horizontal combed band. Diam. 17.2 cm.	From within the rubble tower, above limelayer.
7	Fine buff ware with irregular red wash. Diam. 8 cm.	Corner at B, layer η.
8	Warm buff ware. Without wash or rouletting. Diam. 24 cm.	η.
9	Red-brown to grey. Fine ware, with some white grits. Brown wash, in and out, over rouletting on outside. Diam. 22 cm.	η, close to surface.
10	Light red-brown ware, greyish core. Traces of brown wash. Rouletting outside.	High in η.
11	Warm buff to red ware. Buff surface; red to brown wash. Shallow rouletting outside. Diam. 23.6 cm.	High in η.
12	Warm buff ware, lighter surface. Light brown wash. Light rouletting. Diam. 24 cm.	η.
13	Light reddish-brown. Plain buff surface. White grits. Diam. 28 cm.	η.
14	Greyish ware, red-brown surface, with traces of dark wash. Diam. 16 cm.	η.
15	Light greyish-buff ware. Traces of dark wash. Rouletting outside. Diam. 24 cm.	From within the rubble tower, about 20 cm. above lime layer.
16	Greyish-buff ware, brown wash outside. Rouletted. Diam. about 31.6 cm.	η.
17	Fine, warm buff ware with red wash or slip all over. Diam. 11 cm.	η.
18	Grey ware. Dark wash. Faint rouletting outside.	Top of η.
19	Fine buff ware. Dark wash. Diam. 14.8 cm.	η.
20	Reddish-buff to grey. Fine white grits. Rouletting and dark wash on outside.	3.
21	Warm buff ware, fine white grits. Red slip or wash mostly flaked off. Shallow rouletting outside. Diam. 29 cm.	Bottom of 3.
22	Hard greyish ware, plain buff surface. Diam. 16 cm. Corner at B.	Bottom of 3.
23	Brownish-buff ware, grey core. Traces of dark wash. Diam. 15.6 cm.	Bottom of 3.
24	Reddish-brown ware. Red wash. No rouletting. Diam. 23.6 cm.	3.
25	Red-brown ware, greyish core. Dark brown to red wash.	3.
26	Reddish-brown ware. White grits, dark red to brown wash. Diam. 15.8 cm.	3.
27	Red-brown ware, greyish surface. Diam. 25.4 cm.	3.
28	Fine brick-red ware. Dark brown wash outside and over rim.	Corner at B 3.
29	Buff ware. Fine white grits. Plain buff surface. Diam. 23.5 cm.	Low in layer 3.
30	Brown ware, reddish-brown surface. Traces of darker wash, mostly flaked off. Diam. 25 cm.	3.
31	Brownish-buff ware, brown wash. Rouletting outside. Diam. 23.6 cm. (32-49 deep-bowl or basin rims)	From corner at B 3.
32	Brownish-red ware, grey centre.	3.
33	Light red ware, grey core. Diam. 42 cm.	η.
34	Buff ware, grey core, greyish-white surface. Diam. 44 cm.	η, close to surface.
35	Red-brown ware, grey centre, white grits. Diam. 41 cm.	3.
36	Light red ware, buff surface, grey core. Diam. 40 cm.	η.
37	Brown ware, grey-brown surface. Fine white grits. Diam. 26 cm.	η.
38	Light red ware, grey core. Surface light red to buff. Diam. 38 cm.	η.
39	Grey-brown ware, grey centre, white grits. Diam. 38 cm.	η.
40	Light red ware, grey core. White grits. Diam. 34 cm.	3.
41	Darkish buff ware, grey centre, cream to buff surface. Diam. 32 cm.	Low in 3.
42	Buff ware, fine white grits. Diam. 36 cm.	3.
43	Buff ware. Some large white grits. Diam. 30 cm.	Top of 3.
44	Greyish ware, light red-brown surface.	Bottom of 3.
45	Light red ware. Buff core. Fine white grits. Diam. 44 cm.	Top of 3.
46	Light red ware, buff surface. Diam. 42 cm.	3.
47	Buff ware, surface light red to creamy buff. Diam. 42 cm. Coarse combed band.	Top of 3.
48	Greyish-buff coloured ware. Cream to buff surface. Diam. 46 cm.	From within the rubble tower, above limelayer.
49	Light reddish-brown ware. Grey-brown centre. Diam. 38 cm.	3.

EXCAVATIONS AGAINST THE N. WALL, JERUSALEM

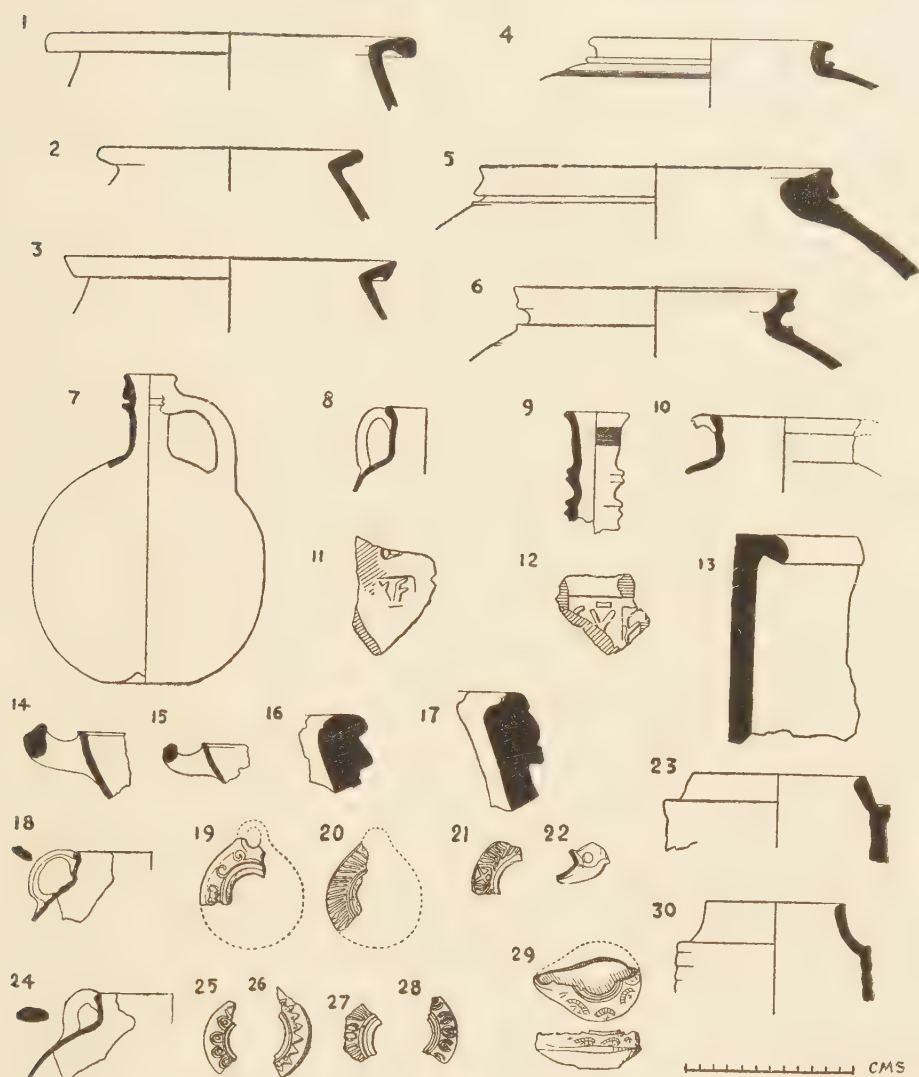


FIG. 23. .

NO.	DESCRIPTION	LEVEL
1	Jar rim. Buff ware, cream surface.	Bottom of 3.
2	Jar rim. Buff ware, grey core, buff surface.	Bottom of 3.
3	Jar rim. Fine, hard, light red ware, grey in section.	Bottom of 3.
4	Jar neck. Light red ware, grey centre. Buff surface.	Top of η (20 cm. below present surface).
5	Jar neck. Same ware and level as No. 4.	η.
6	Jar neck. Light red ware throughout. Fine white grits. Partly covered with a light brown surface wash.	η.
7	Neck of jar. Greyish-buff ware, with white grits. Pale buff surface, rather rough finish. Shape restored from a whole jug found in Karm esh Sheikh	η.

R. W. HAMILTON

NO.	DESCRIPTION	LEVEL
	Cemetery. (Cf. <i>QDAP</i> , Vol. I, Pl. XVI, 7.) Necks of this type were found throughout 3 and η.	
8	Jug handle. Light red ware, evenly baked.	η.
9	Neck of a bottle. Red-brown ware, grey centre. Red wash over combed band. Fragments of bottles and jugs so treated were common. The usual jug seems to have had a globular body with a ring base, and one or more horizontal combed bands above the greatest diameter.	3.
10	Jug fragment. Rather fine buff ware, evenly fired.	From the corner at <i>B</i> .
11	Fragment of a ridge tile or drain pipe with Tenth Legion stamp.	3.
12	Tile fragment as above.	3.
13	Roof-tile fragment.	3.
14	Cooking-pot. Coarse brown ware, faint ribbing outside, rough surface. Diam. 28 cm.	3.
15	As above. Thinner ware, rough surface. Diam. 23.5 cm.	η.
16	Limestone jar rim fragment.	3.
17	Limestone jar rim fragment.	η.
18	Cooking-pot. Coarse red-brown ware, rough surface. Diam. 10 cm.	From within the rubble tower, above lime layer.
19	Lamp. Light reddish-buff ware with red-brown wash. For this and the following lamps, except No. 29, cf. <i>PEF Annual</i> No. 5, Pl. XVII, especially Nos. 8, 9, and 16-20. Also a group of lamps from Beit Nattif, <i>QDAP</i> , Vol. V, Pl. VI, 8-10, &c. The latter were associated with coins of which the latest was of Diocletian, 305 A.D.	From within the rubble tower, 20 cm. above the lime layer.
20	Lamp. Light red ware, buff surface, with trace of dark wash.	η.
21	Lamp. Buff ware, dark brown wash.	Near surface, top of η.
22	Lamp handle. Rather fine buff ware.	3.
23	Drain-pipe fragment.	From within the rubble tower, 60-85 cm. below surface, i.e. above lime layer.
24	Cooking-pot. Reddish-brown ware. Smooth surface, hardly perceptible ribbing. Rim diam. about 10 cm. The type survives from Hellenistic times.	Bottom of 3.
25	Lamp. Pale buff ware. Thin brown slip, flaking off.	High in layer η.
26	Lamp. Buff ware. Dark brown wash on upper surface, flaking off.	Near surface, i.e. top of η.
27	Lamp. Warm buff ware. Traces of red-brown wash.	3.
28	Lamp. Buff ware.	Top of 3.
29	Greyish ware, pale buff surface. Rudimentary handle.	From the corner at <i>B</i> , near the surface, in the filling of the Islamic construction trench.
30	Drain pipe.	η.

The evidence of coins in a context such as this, where intrusions are easy, is not of great value unless the coins are numerous. In the two main sections against *AB* and *DE* only ten recognizable coins were found. Of these one, a Mameluke coin of the fourteenth century, was found at the bottom of layer 3 near the wall of the tower, where it had clearly slipped down from the Islamic construction trench above. A second coin of the same date was found

EXCAVATIONS AGAINST THE N. WALL, JERUSALEM

in that trench. The remaining coins range in date from Alexander Jannaeus (103-76 B.C.) to Numerianus (A.D. 284).

The following is a list of those coins from all layers of the debris which were identifiable.

Coins

(For the levels of Nos. 1-10 cf. Fig. 18, Sections y-y' and z-z'. For No. 11 cf. Fig. 19.)

No.	LEVEL	DESCRIPTION	DATE
1	δ	Coin of Agrippa I. <i>Obv.</i> Umbrella with fringe; around ΒΑΣΙΛΕΥΣ ΑΓΡΙΠΙ . . . <i>Rev.</i> Three ears of barley; across, date ΛϚ	A.D. 42-3
2	δ	Fragment. Coin of Agrippa, as 1. <i>Obv.</i> Umbrella with fringe; around ΒΑΣΙΛΕΥΣ ΑΓΡΙΠΙΑ <i>Rev.</i> Three ears of barley: across ΛϚ.	A.D. 42-3
3	δ	Coin of Procurators. <i>Obv.</i> Palm branch ΛΕ ΚΑΙCΑΡΟC <i>Rev.</i> Within olive wreath ΝΕΡ ΩΝΟ C	A.D. 58-9
4	δ	Imitation of coin of Alexander Jannaeus. <i>Obv.</i> Anchor within broad circle. Inscription obliterated. <i>Rev.</i> Wheel of eight rays. Inscription obliterated.	1st cent. B.C.
5	Recorded as found near the bottom of 3 at DE and doubtless intrusive.	A Mameluke coin dated 744 A.H. <i>Obv.</i> الملك الصالح بن محمد ضرب بدمشق <i>Rev.</i> في سنة اربع واربعين وسبعماية	A.D. 1343-4
6	η	Alexander Jannaeus. Worn.	103-76 B.C.
7	η	Coin of First Jewish Revolt. <i>Obv.</i> Amphora and inscription: ω x Ϛ ω x Ϛ ω <i>Rev.</i> Vine-branch and inscription: Ϛ x Ϛ Ϛ x Ϛ Ϛ	A.D. 68-9

R. W. HAMILTON

NO.	LEVEL	DESCRIPTION	DATE
8	η	<i>Obv.</i> Bust of Numerianus r., radiate and draped; around IMP CMAVR NVMERIANVS PF AVG. <i>Rev.</i> Emperor receiving globe surmounted by Victory from Jupiter. Inscription VIRTVS AVGG, between figures, Z. In ex XXI.	A.D. 283-4
9	η	<i>Obv.</i> Bust of Probus r., radiate. Around, IMP MAVR PROBUS AVG <i>Rev.</i> Emperor receiving globe from Jupiter. Around CLEMENTIA TEMP. In ex XXI.	A.D. 276-82
10	Islamic Construction Trench at DE.	<i>Obv.</i> الملك الصالح بن محمد ضرب بدمشق <i>Rev.</i> في سنة ثلاث وأربعين وسبعماية	A.H. 743 (A.D. 1342-3)
11	Red soil 55 cm. above rock.	<i>Trench at H 1</i> , cf. Fig. 19. 2 coins of Agrippa I. <i>Obv.</i> Umbrella. Around BACIAEWC ΑΓΡΙΠΠΑ <i>Rev.</i> Three ears of barley. Across, date L 5	A.D. 42-3

Generally speaking the evidence from the excavations at *C* repeats what could be learnt from the other soundings. As at *B*, there is no evidence of a wall that could have belonged to any city earlier than Aelia Capitolina. Apart from the aqueduct, the earliest important construction to be seen is a city wall built, as far as can be judged, at some date between the foundation of Aelia and the late third or early fourth century A.D. The accumulations that preceded the building of the wall are mainly composed of first- or second-century material; but the presence of a few later sherds, both in those accumulations and in the filling of the construction trenches leads us to conclude that the wall did not exist until the end of the third century. Fragments and blocks of masonry from the great buildings of Herodian Jerusalem were still available for reuse, as they were for the contemporary builders at the Damascus Gate. But of any construction from which they might have come we found no trace. The earliest construction to be seen is the aqueduct. If the position of the Fatalis inscription, which M. Avi-Yonah has dated with probability to the

EXCAVATIONS AGAINST THE N. WALL, JERUSALEM

early second century A.D., were unambiguous it would provide a firm *terminus post quem* both for the aqueduct itself and also for the red layers of soil, β and δ , which overlie it and precede the building of the wall. Unfortunately the relation of the inspection chamber, in the fabric of which the inscription was built, to the aqueduct as a whole is not certain. To investigate this point we removed some of the plaster from the edge of the channel inside the chamber. On the west side of the channel the rock was found to be rebated exactly as it was further north, where the object clearly was to give a firm bearing to the end of the cover-stones. We concluded from this that the channel was originally designed to be covered throughout with flat slabs, and that the inspection chamber was in all probability a later addition. The inscription cannot, therefore, be used as evidence for the date of the channel.

It is impossible to say how early the aqueduct was made, except that it antedated the red soil β , of which the contents were never later than the first or second centuries A.D. It certainly remained in use for some centuries, for we found fragments of ribbed jars of third- or fourth-century type amongst the potsherds used for backing the latest rendering of the channel. Its usefulness ended with the cutting of the scarp and the blocking of the exposed section. This must have happened after the ribbed jars had come into use.

The discovery of an obsolete wall line protected, where it faced higher ground outside, by an escarped ditch, was not unexpected. The eastward continuation of a similar line has long been visible at the north-eastern corner of the city, where both scarp and counterscarp can still be seen. What is new is the definite evidence that at the point where we have examined it the fosse was not dug till after the third or early fourth century A.D. This is a necessary conclusion both from the fact that the aqueduct continued to be repaired and was therefore still in use, until that time, and from the chronological relation of the rubble constructions to the foundations of the present tower, which are shown to belong to that period.

It is clear that many questions relating to the north wall line still remain to be answered. That line had been modified and repaired many times before even the Arab Conquest. The purpose of this report has been to make new evidence available rather than to press conclusions. It is hoped that the facts presented may contribute toward filling some of the gaps in what still remains an imperfectly explored subject.

R. W. HAMILTON.

R. W. HAMILTON

PLATE XI. Miscellaneous objects from Soundings *A*, *B*, and *C*.

NO.	DESCRIPTION	LEVEL
1	Fragment of pierced cylindrical box. Hard reddish-brown ware, brown wash inside and out.	Sounding <i>C</i> . η .
2	Sherd from the bottom of a similar box.	Sounding <i>C</i> . η near surface.
3	Similar to 1 and 2; perhaps fragment of a brazier.	Sounding <i>C</i> . η .
4	Fragment of buff ware, roughly carved.	Sounding <i>C</i> . 3.
5	Fragment of a rim. Good red varnish on buff ware.	Sounding <i>C</i> . Low in 3.
6	Jar sherd. Gritty brown-buff ware. Combed band and purplish paint.	Sounding <i>C</i> . 3.
7	Fragment of cylindrical clay object, with stamped designs. Buff ware, with brown wash on outside. (Upside down in the photograph.)	Sounding <i>C</i> . 3.
8-15	Examples of rouletted patterns on bowls.	Sounding <i>C</i> . 3 and η .
16	Fragment of a fluted bowl. White faience, glazed, with dark blue and black design on white ground.	From the cesspit at sounding <i>A</i> .
17	Rim fragment. Dark grey ware. Rim indented and surface decorated with rouletted pattern.	Sounding <i>B</i> , 1.60 m. below datum.
18	Fragment of a bottle. Light reddish-brown ware, grey in centre, with decoration of incised nicks.	Sounding <i>A</i> , 5.00-4.50 m. below datum.
19	Pale greenish-grey fragment of a bottle. Pricked and incised design.	Sounding <i>A</i> , 5.00 m. below datum. From construction trench against curtain wall.
20 & 21	Stamped jar handle. (Cf. p. 15.)	Sounding <i>A</i> . From bottom of construction trench against curtain wall. 4.30 m.
22	Two views of a draped shoulder and upper arm. Limestone.	Sounding <i>C</i> . 3.



1. Looking south



2. Looking east

Sounding *A*

NORTH WALL OF JERUSALEM



1. West Tower, Damascus Gate



2. Junction of West Tower and curtain wall

Sounding A. Details of moulding and masonry

NORTH WALL OF JERUSALEM



2. Details of stone dressing, bottom of south-east corner, Temple area, Jerusalem



3. Detail of drafted masonry inside cistern at *E* (cf. Pl. VI, 2)

1. Sounding *A*. Junction of tower and curtain wall at bottom of trench

NORTH WALL OF JERUSALEM



1. Sounding *D*. Looking south
2. Stucco fragments from sounding *B*

NORTH WALL OF JERUSALEM

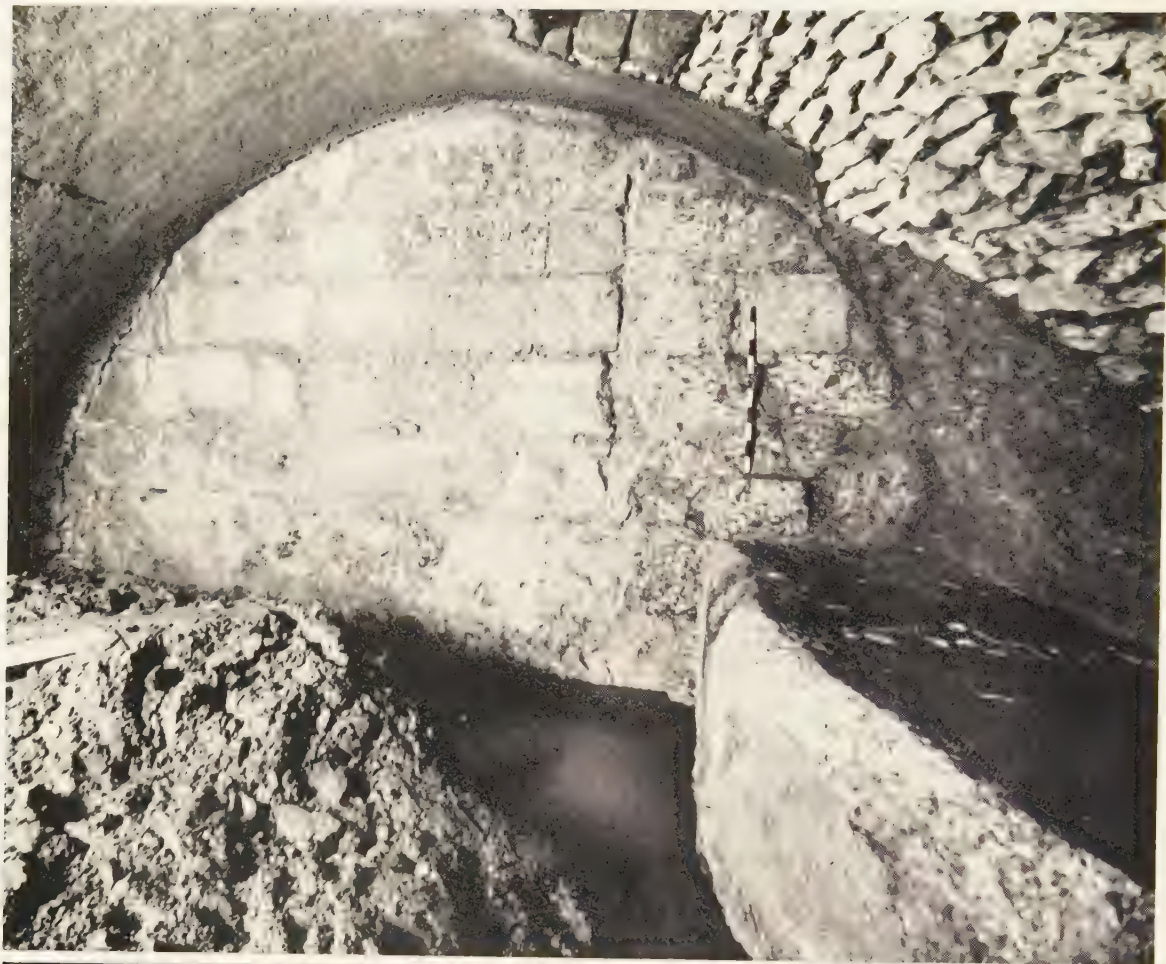


1. Fragment of a late Roman city wall in the Citadel Yard

NORTH WALL OF JERUSALEM



2. Sounding E, looking south



1. Interior of cistern at *E*, looking south
2. 'Herodian' masonry *in situ*

NORTH WALL OF JERUSALEM



1. Wall at *B*, before excavation
2. Sounding *B*, looking south

NORTH WALL OF JERUSALEM



1. Sounding C. General view, looking south



2. Rock-scarp and masonry in front of city wall
NORTH WALL OF JERUSALEM



1. Trenches *ABC* and *DE*



2. Foundations of city wall at *A*
Sounding *C*

NORTH WALL OF JERUSALEM

Stone with
inscription



2. Inspection-chamber in aqueduct below city wall



1. Corner of city wall at FG

Sounding C

NORTH WALL OF THE TEMPLE



Miscellaneous objects from sounding *A*, *B*, and *C*
NORTH WALL OF JERUSALEM

A LATE BRONZE AGE TOMB AT TELL JERISHE

A TOMB chamber cut in a friable kurkar rock containing antiquities dating from the Late Bronze Age was discovered in 1937 by Mr. Y. Frankel at Shekhunat Geffen, *c.* 350 m. south-south-east of Tell Jerishe, in course of digging the foundations of his house.¹

Tell Jerishe itself, the so-called Napoleon's hill, lies on the old Nablus road, between the latter and the 'Auja river, *c.* 5 kilometres north-east of Jaffa. Attention was first drawn to the archaeological importance of the site in 1925 with the discovery of a Middle Bronze Age necropolis.² The abundance of Cypriote ware on the Tell, together with the circumstance that the river is navigable at least as far as this point, are suggestive of direct foreign contacts, at this period.

Although the discovery of the tomb was reported almost immediately, this was not done before the roof of the tomb had actually been broken through in course of digging for the foundations and a number of objects in the tomb had been removed by the finder in order to safeguard them. The latter circumstance along with the inherent fact of the friability of the kurkar rock, in which the tomb was irregularly hewn, made it difficult to obtain an accurate plan. Sufficient indications, however, remain to show that the chamber was roughly circular, with entrance from the west side, resembling in general outline the plan of Cypriote tombs of the Late Bronze Age.³ The plan and section are given in Fig. 1. The chamber measured roughly 2.55 m. east and west by 3.00 m. north and south, and had a maximum height of 1.36 m. in the middle.

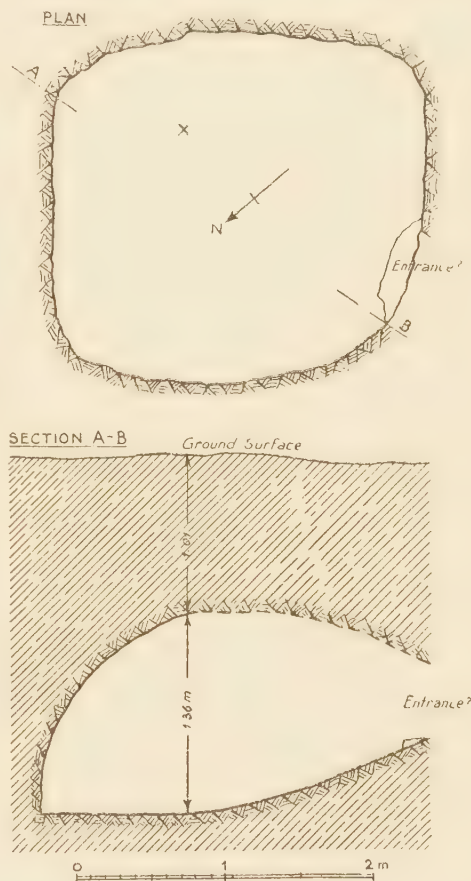


FIG. 1.

¹ The exact position is in square 132.166, sheet 7, Survey of Palestine, 1:100,000 series.

² *Palestine Museum Bulletin*, No. 2, pp. 7-10. Excavations on this mound by the Hebrew University have taken place since (cf. *QDAP*, Vol. IV, p. 208 f., Vol. VI, p. 225).

³ Cf. the Milia tombs, published by A. Westholm in *QDAP*, Vol. VIII, pp. 1 ff.

The tomb contained one, or possibly two, burials and no stratified deposit. The bones were so much decayed that not even the position of the burials could be established with certainty. A fragment of skull and finger ring No. 1, Pl. XIII were found at point α on plan, *c.* 20 cm. above the floor.

The inventory of the objects found in the tomb, given below, appears to represent a complete tomb deposit, the tomb having been discovered intact. The jar found in the south corner contained remains of victuals (Pl. XIII, 9). A chemical analysis of the contents, however, could reveal no more than that it had contained organic matter. The finger ring (Pl. XIII, 1) showed traces of repairing or reuse. The solder of the ring was analysed and proved to be lead containing no tin. From the nature of the objects found in the grave, such as scales, weights, &c., as well as from lack of any weapon, it is perhaps suggested that the deceased was a trader by profession, or a goldsmith.

Although Middle Bronze Age tombs are of regular occurrence and relatively common at Tell Jerishe, this is the first evidence found so far of a Late Bronze burial, though there was an extensive L.B. settlement on the Tell. The tomb may be dated to L.B. Age II.¹

J. ORY.

List of Finds

Pottery (Pl. XII).

1. Cypriote hemispherical bowl. Diam. 17.8 cm., height 10.3 cm. Greyish-white slip. Ladder pattern on body (Pl. XII, 16).
2. Same shape and slip. 17.7 by 11.5 cm. Chain links between horizontal bands. Rim chipped off in places (*ibid.* 18).
3. Same shape and ornament. 17 by 12.1 cm. Hard-baked reddish-buff clay covered with white slip. Decorations in dark brown (*ibid.* 17).

Most probably these vessels, as well as the base-ring metallic ware, were imported from Cyprus, although from their abundance on the Tell and in this tomb it appears that they must have been very commonly used.

4. Cypriote bowl. 17.8 by 8 cm. Base-ring ware with wishbone handle. Hard-baked metallic ware with traces of red slip. Complete (*ibid.* 14).

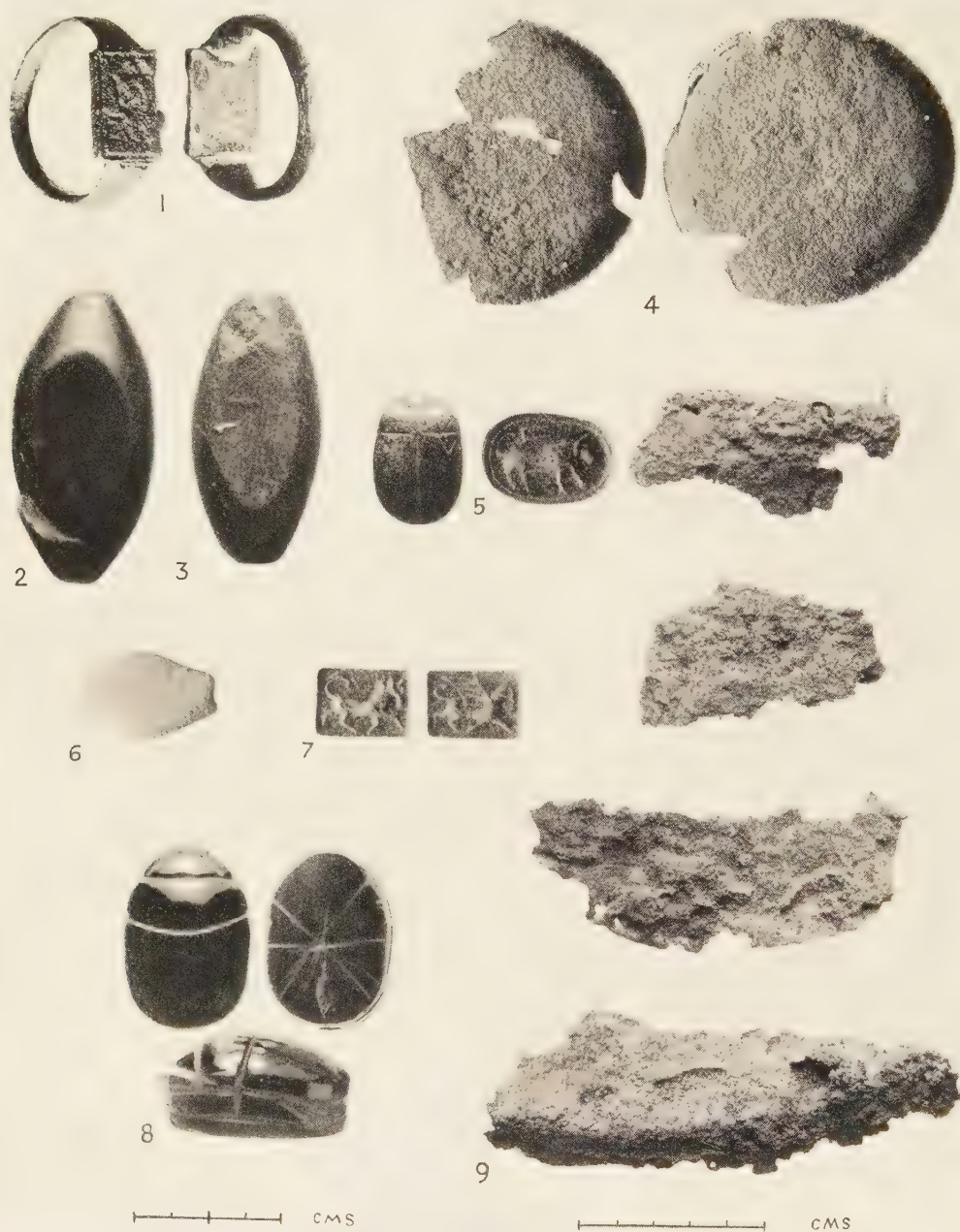
Other fragments of this type of ware were found in the tomb. They were used for cooking, as they were mostly found with marks of smoke.

5. Bowl. 23.1 by 9.8 cm. Hand-made. Ring base. Flat rim. Buff clay mixed with lime and red grit. Very faint traces of a red wash. Surface now weathered (*ibid.* 11).
6. Bowl. 25.6 by 8 cm. Ring base. Fine buff clay. Traces of white slip. Groove below rim (*ibid.* 13).
7. Bowl. 28.5 by 8.6 cm. Ring base. Reddish-buff clay and surface. (Not illustrated.)
8. Chalice. 19.2 by 10 cm. Black core with grit. Reddish-brown surface (*ibid.* 12).

¹ Cf. Tell Abu Hawam report (*QDAP*, Vol. IV, p. 67) and the Tell Beit Mirsim report (Albright, *AASOR*, Vol. XII, pp. 61 ff).



Pottery
TOMB AT TELL JERISHE



Bronze, Stone, &c., Objects
TOMB AT TELL JERISHE

A LATE BRONZE AGE TOMB AT TELL JERISHE

9. Lamp. 16.8 by 6.2 cm. Reddish-brown ware (*ibid.* 15).
10. Cypriote jug. 29.7 by 9.7 cm. Base ring ware. Wide mouth. Reddish-brown ware with traces of greyish-black slip. Grooved rim and handle (*ibid.* 8).
11. Same shape. 27.4 by 5.8 cm. Grey core. Reddish-brown ware. Handle broken (*ibid.* 9).
12. Same shape. 13.2 by 22.3 cm. Handle to ridge on neck (*ibid.* 2).
13. Same shape. 12.5 by 3.3 cm. Grey core. Reddish-buff ware (*ibid.* 7).
14. Same shape. 12.8 by 4.7 cm. Core and ware as No. 13 (*ibid.* 6).
15. Dipper flask. Height 14 cm. Pointed base. Hand-made, with buff clay well levigated. Neck broken (*ibid.* 5).
16. Same shape and make. Height 7.6 cm. (*ibid.* 7).
17. Juglet. 20.7 by 6.8 cm. Small flattish base, pinched mouth. Lower part hand-made. Reddish-brown ware with large grit (*ibid.* 3).
18. Juglet. 18.7 by 7 cm. Wide mouth with relief line round base. Handle forms full curve. Cf. Juglet from Milia (A. Westholm in *QDAP*, Vol. VIII, Pl. III, 5) (*ibid.* 4).
19. Jar. Height 63 cm. Grey core. Reddish-brown ware. Profiled neck. Knob base (*ibid.* 10).

Bronze.

20. Ring, 2.6 cm. in diam. On bezel seated figure (?). □ sign on top left-hand side (Pl. XIII, 1).
21. Two scale pans. Diam. 8 cm. They have each four perforations for the strings (cf. Guy, *Megiddo Tombs*, Pl. 125, Nos. 6-9, Pl. 167, No. 3) (*ibid.* 4).
22. Weights bronze 9.02 gr. and 4.8 gr. respectively. (Not illustrated.)

Stone and Paste.

23. Haematite weight. 4.2 cm. 46.5 gr. The shuttle form of weights, usually in haematite, begins to appear in the 'Second Semitic period' at Gezer and lasts into the Hellenistic Age (Macalister, *Gezer*, Vol. II, p. 280. Cf. also Petrie, *Ancient Gaza*, Vol. II, Pl. XXIII and Guy, *Megiddo Tombs*, Pl. 129) (*ibid.* 2).
24. Steatite or basalt weight. 3.9 cm. 20 gr. (*ibid.* 3).
25. Blue paste bead. 2 cm. (*ibid.* 6).
26. Carnelian scarab. 2.5 by 1.7 cm. Incised three crossed lines (representing possibly the device of a star) on base (*ibid.* 8).
27. Black steatite scarab. 1.8 by 1.7 cm. A bull is engraved on the base, with an □ sign above (cf. No. 20) (*ibid.* 5).
28. Steatite seal. 1.4 by 1 cm. Perforated. On each side a running animal is engraved; one of the animals is winged (*ibid.* 7).

Varia.

29. Carbonized victuals found in jar 19 (*ibid.* 9).

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